98-11

ABUNDANCE, AGE, SEX AND SIZE OF CHINOOK, SOCKEYE, COHO, AND CHUM SALMON RETURNING TO UPPER COOK INLET, ALASKA, IN 1997

by

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and

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF TABLES (Continued)

LIST OF TABLES (Continued)

LIST OF FIGURES

ABSTRACT

The estimated total return of sockeye salmon *Oncorhynchus nerka* to Upper Cook Inlet (UCI) was 6.5 million fish. Commercial harvests and escapements of sockeye salmon that were monitored totaled 5,983,171 fish. The commercial harvest was 4,176,696 fish while the escapement into six major river systems was 1,806,475 fish. The difference between the estimated and monitored total return represents in part, sport, subsistence and personal use harvests and unmonitored escapements. Based on the commercial harvest and estimated total return, the exploitation rate for sockeye salmon was 65%. Age classes 1.2, 1.3, 2.2, and 2.3 comprised 98% of the combined UCI commercial sockeye salmon harvests and escapements with age class 1.3 representing 3.9 million fish or 66% of the total monitored return. Average length for the four major age classes ranged from 481 mm for age-1.2 fish to 581 mm for age-1.3 fish. Female composition of sockeye salmon in the combined commercial harvests and escapements equaled 53%.

A total of 13,235 chinook salmon *O. tshawytscha* were commercially harvested in UCI. The Upper Subdistrict eastside set gillnet harvest of 11,281 fish was the only harvest sampled and represented 85% of the total commercial harvest. Ages 1.1, 1.2, 1.3, and 1.4 comprised 96% of the harvest. Average length of the four major age classes ranged from 426 mm for age-1.1 fish to 1,003 mm for age-1.4 fish. Sex composition favored males at 58.5%.

The commercial harvest of coho salmon *O. kisutch* was 152,404 fish. Commercial gillnet harvests in the drift fleet and Upper and General Subdistricts represented 88% of the total commercial harvest. Age-1.1, -2.1, and -3.1 fish comprised the total harvest. Average lengths for these three respective age classes ranged from 538 mm to 581 mm. The female composition of coho salmon in all three commercial harvests was 53%.

The commercial harvest of chum salmon *O. keta* equaled 103,036 fish. The drift gillnet harvest which was the only harvest monitored was 92,163 fish or 89% of the total. Age classes 0.3 and 0.4 comprised 95% of the harvest. Average length for these two age classes ranged from 605 mm to 622 mm. Female chum salmon contributed 54.6% to the harvest.

The commercial harvest of pink salmon *O. gorbuscha* in UCI in 1997 totaled 70,928 fish.

KEY WORDS: Salmon, *Oncorhynchus*, age, size, commercial catch, escapement, exploitation rate, Upper Cook Inlet, Alaska

INTRODUCTION

Upper Cook Inlet (UCI) supports the production of all five species of Pacific salmon *Oncorhynchus* (Figure 1). Since 1966 the average harvest of salmon in UCI was 4.5 million fish representing 3.0 million sockeye *O. nerka*, 1.0 million even-year pink *O. gorbuscha*, 0.1 million odd-year pink, 0.6 million chum *O. keta*, 0.4 million coho *O. kisutch*, and 16,000 chinook *O. tshawytscha* salmon. Salmon harvests in UCI represent approximately five percent of the statewide commercial harvest (Ruesch and Fox 1998). Locations of the commercial fishing districts, subdistricts and Upper Subdistrict beach fisheries are shown in Figure 2.

The pioneering work of Davis and Kissner (1969) in UCI provided a framework from which age, sex and length data collection began. Unfortunately in the early years (1964-78) the sample collection of commercial harvest and escapement data was sporadic and limited compared to the present. Information was published in annual technical reports from 1964 to 1978. Davis and Tarbox (1985) produced a compendium of information for the period 1964-1981 to summarize the yearly results. The series continued with the advent of stock separation studies in 1978 and has been in existence ever since (Bethe et al. 1980; Cross et al. 1981, 1982, 1983, 1985, 1987; Cross 1985; Tobias and Waltemyer 1996; Waltemyer 1989, 1990, 1991, 1993, 1994a, 1994b, 1995a, 1995b; Waltemyer and Tobias 1997). The major emphasis has been on sampling sockeye salmon in the commercial harvests and escapements. However, since 1983 chinook, coho, and chum salmon sampling in key commercial harvests has been conducted.

Age, sex and length information in conjunction with abundance data provides a basis for assessing yearly variations in production and effects of management strategies. This report is part of a continuing series. Specific objectives were: 1) document number of salmon harvested in selected commercial gillnet fisheries; 2) report escapement numbers from the major river systems; and 3) estimate age, sex, and length composition of salmon in selected commercial harvests and escapements.

METHODS

Numerical Data

Commercial harvest statistics were compiled from ADF&G final fish ticket information.

Sockeye salmon escapement in Fish Creek was determined by observing fish migrating through a weir located 3 miles upstream from the confluence with Knik Arm of Cook Inlet (C. Whitmore, ADF&G, Palmer, personal communication).

ADF&G personnel used Bendix Corporation[2] side-scanning single transducer sonar to enumerate the adult salmon escapement in the Kenai, Kasilof, Crescent, and Yentna Rivers (Davis and King 1996). Escapement in the Kenai and Yentna rivers was apportioned to salmon species based on fish wheel catches. A trap was used to apportion the salmon escapement in Crescent River. Kasilof River escapement was apportioned to sockeye salmon only.

Chinook salmon escapement in the Kenai River was estimated using Hydroacoustic Technology, Inc. split-beam sonar (RM 8.5; D. Burwen, ADF&G, Anchorage, personal communication)

Cook Inlet Aquaculture Association (CIAA) personnel monitored sockeye salmon escapements through weirs on Hidden, Packers and Lake Creeks (Cheltna Lake; G. Fandrei, CIAA, Soldotna, personal communication).

Age, Sex, and Size Data

Fish scales were taken from the left side of the salmon approximately two rows above the lateral line on the diagonal row that extends down from the posterior insertion of the dorsal fin to the anterior insertion of the anal fin (Koo 1955). One scale was collected from each sockeye and chum salmon. Because of the higher number of regenerated scales on coho and chinook, three scales were collected from each of these species. Scales were mounted on gum cards and impressions made in cellulose acetate as described by Clutter and Whitesel (1956).

Ages of salmon were determined by visual examination of scale impressions under moderate magnification (40X) using a microfiche viewer. Age was determined based upon criteria established by Mosher (1969) and Tobias et al. (1994). Ages were recorded in European notation (Koo 1962).

Sex and length information were recorded for all specimens sampled. Sex of the fish was determined by morphological characteristics. Chinook and coho salmon were also checked for adipose fin clips. Length in millimeters was measured from mid-eye to fork-of-tail.

Age, sex and length compositions of the commercial catches were estimated using a stratified systematic random sampling design (Cochran 1977). A minimum sample size of 403 readable scales was defined for each species and strata to estimate simultaneously the proportion of each major age class in the harvest within five percent of the true proportion 90% of the time (Thompson 1987). A sample size of 500 fish per strata for sockeye salmon harvested in the commercial fisheries sampling was set to account for unreadable scales. For escapements a single sample size of 500 fish was defined to provide the same level of precision. Escapement samples were weighted over time by sampling a fixed proportion of fish captured by fish wheel each day. The percent of each day's escapement to be sampled was a ratio of the total sample size to the anticipated total escapement.

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[2] *Vendor or product names are provided to document methods and do not constitute an endorsement by ADF&G.*

Commercial fishery harvests were stratified by date and area. Salmon were sampled from each of six commercial fishing districts and subdistricts from two to ten times during the season. Frequency and priority of sampling was based on the historical harvest contribution of a fishery to the total UCI commercial harvest and, in some cases, defined by the current management strategy. In order to detect changes in seasonal age composition, sampling dates were selected based on historic data such as run timing for each species throughout the season.

RESULTS AND DISCUSSION

A total of 1,947 chinook, 21,223 sockeye, 1,781 coho, and 798 chum salmon were sampled in selected UCI commercial gillnet harvests and escapements in 1997 (Table 1). Age, sex and length data along with harvest and escapement information are presented below.

The 1997 UCI salmon harvest of 4.5 million fish was 107,506 fish less than in 1996 and approximately equal to the long-term (1966-96) average.

Sockeye Salmon

Total Return

The monitored sockeye salmon total return was 5,983,171 fish represented by a commercial harvest of 4,176,696 fish, and an escapement of 1,806,475 fish (Table 2). There were sport, personal use, and subsistence harvests and "Other" unmonitored escapements (approximately 15% of the total monitored escapement) that occurred in UCI and totaled approximately 587,000 fish. These factors combined with the monitored commercial harvests and escapements yielded a total return of 6.5 million fish in 1997.

The following four major age classes made up 98.2% of the monitored sockeye salmon commercial harvests and escapements (Table 3):

Age Class	%	Escapement & Commercial Harvest	Mean Length
1.2	9.7	563,647	481 mm
1.3	68.3	3,953,387	581 mm
2.2	5.0	291,466	483 mm
2.3	15.1	872,546	574 mm

The predominant age class percentages, numbers and mean lengths of sockeye salmon in the UCI commercial harvest were:

Age Class	%	Harvested	Mean Length
1.2	8.1	333,477	486 mm
1.3	69.9	2,883,272	583 mm
2.2	4.8	201,296	487 mm
2.3	15.6	642,817	577 mm

The predominant age class percentages, numbers and mean lengths in the monitored UCI escapements were:

Age Class	%	Escapement	Mean Length
1.2	13.9	230,170	473 mm
1.3	64.6	1,070,115	576 mm
2.2	5.4	90,170	473 mm
2.3	13.9	229,729	567 mm

Although age-0.3 sockeye were not a major component of all escapements combined, they were a significant component of the Susitna River. Age-0.3 sockeye represented 10.5% of the Yentna River, a tributary to the Susitna River, escapement that has averaged only 3.5% since escapement sampling began in 1983.

Female contributions among the major age classes ranged from 47% (Eastern Subdistrict) to 55% (Central District Drift) in the commercial harvests and from 48% (Crescent River) to 74% (Packers Creek) in the escapements (Table 3).

Commercial Harvest by Fishery

The 1997 Central District sockeye drift gillnet harvest (Chinitna Bay closed to drift fishing) was 2,197,706 fish (Tables 3 and 4). This harvest represented 52.6% of the total UCI sockeye harvest. Historically, the drift harvest from 1966-96 has averaged 55.8%. The major age class percentages, number of fish and mean lengths were:

Age Class	%	Harvest	Mean Length
1.2	6.3	139,438	499 mm
1.3	71.6	1,574,212	589 mm
2.2	3.2	71,745	501 mm
2.3	16.7	366,691	584 mm

Age-1.3 fish represented between 60% and 80% of the harvest throughout the season (Table 4 and Figure 3). Age-2.3, -1.2, and -2.2 fish represented relatively smaller percentages of the harvest by area and fishing period with similar harvest trends (Table 4; Figures 4-6).

Female composition in the drift gillnet harvest ranged from 38.7% (26 July - 4 Aug) to 64.7% (10-13 July; Table 4).

The Cohoe/Ninilchik Beach set gillnet harvest was 645,967 fish and represented 15.5% of the total UCI sockeye salmon harvest (Tables 3 and 5). Historically the Cohoe/Ninilchik fishery harvest averaged 12.8%. The major age class percentages, number of fish, and mean lengths were:

Age Class	%	Harvest	Mean Length
1.2	13.2	85,114	475 mm
1.3	61.4	396,271	570 mm
2.2	10.3	66,579	479 mm
2.3	14.4	92,772	559 mm

Age-1.3 fish represented between 60% and 80% of the harvests with age-2.3, -1.2, and -2.2 fish each representing less than 20% of the harvest during the season (Figures 3-6). Female composition in the Cohoe/Ninilchik Beach sockeye harvest ranged from 43.9% (10-11 July) to 55.0% (17-20 July; Table 5).

The Kalifonsky Beach set gillnet harvest, which historically averaged 12.0% of the total UCI sockeye salmon harvest, represented 11.8% or 492,739 fish in 1997 (Tables 3 and 6). The four major age class percentages, number of fish, and mean lengths in the harvest were:

Age Class	%	Harvest	Mean Length
1.2	12.2	60,214	466 mm
1.3	63.8	314,130	576 mm
2.2	6.9	34,073	471 mm
2.3	16.3	80,085	566 mm

Trends similar to Cohoe/Ninilchik Beach harvests (in percentage) were observed in the Kalifonsky Beach harvests for age-1.3, -2.3, -1.2, -2.2 fish (Figures 3-6). Female composition in the Kalifonsky Beach harvest ranged from 47.6% (27 June-11 July) to 57.2% (20 - 25 July; Table 6).

The Salamatof Beach set gillnet harvest, which historically averaged 11.6% of the total UCI sockeye salmon harvest, represented 16.7% or 694,110 fish in 1997 (Tables 3 and 7). The four major age class percentages, number of fish, and mean lengths were:

Age Class	%	Harvest	Mean Length
1.2	4.0	27,542	486 mm
1.3	78.5	544,824	581 mm
2.2	3.3	23,217	488 mm
2.3	13.7	94,947	575 mm

Female composition in the Salamatof Beach harvest ranged from 50.7% (17-21 July) to 62.8% (11-14 July; Table 7).

Of the three Upper Subdistrict beach fisheries, sockeye harvested in the Cohoe/Ninilchik Beach harvest were smallest in total mean length (547 mm) while sockeye in the Salamatof Beach harvest were the largest (573 mm).

Kalifonsky Beach sockeye salmon mean length was 554 mm. Trends in mean length were similar among the four major age classes and fisheries.

The Eastern Subdistrict sockeye salmon set gillnet harvest of 10,364 fish, which historically averaged 1.5% of the total UCI sockeye salmon harvest, represented 0.2% in 1997. (Tables 3 and 8). The major age class percentages, number of fish, and mean lengths were:

Age Class	%	Harvest	Mean Length
1.2	25.0	2,591	475 mm
1.3	41.7	4,326	563 mm
2.2	12.5	1,296	484 mm
2.3	18.1	1,874	561 mm

Female composition in the harvest was 47.1%.

The General Subdistrict set gillnet harvest of 87,087, which historically averaged 2.6% of the total UCI sockeye salmon harvest, represented 2.1% in 1997 (Tables 3 and 9). The major age class percentages, number of fish, and mean lengths were:

Age Class	%	Harvest	Mean Length
0.3	8.9	7,740	569 mm
1.2	21.3	18,578	504 mm
1.3	56.9	49,509	572 mm
2.2	5.0	4,386	501 mm
2.3	7.4	6,448	565 mm

Females represented 49.7% of the harvest.

Chi-square test comparisons of the four major age classes (1.2, 1.3, 2.2, 2.3) among the six commercial harvest areas were all statistically significantly ($P<0.05$; $df=3$) indicating differences in age composition were present. Chi-square statistics ranged from 230.4 for testing the drift harvest to Cohoe/Ninilchik Beach harvest to 13.8 for testing Cohoe/Ninilchik Beach harvest to Kalifonsky Beach harvest.

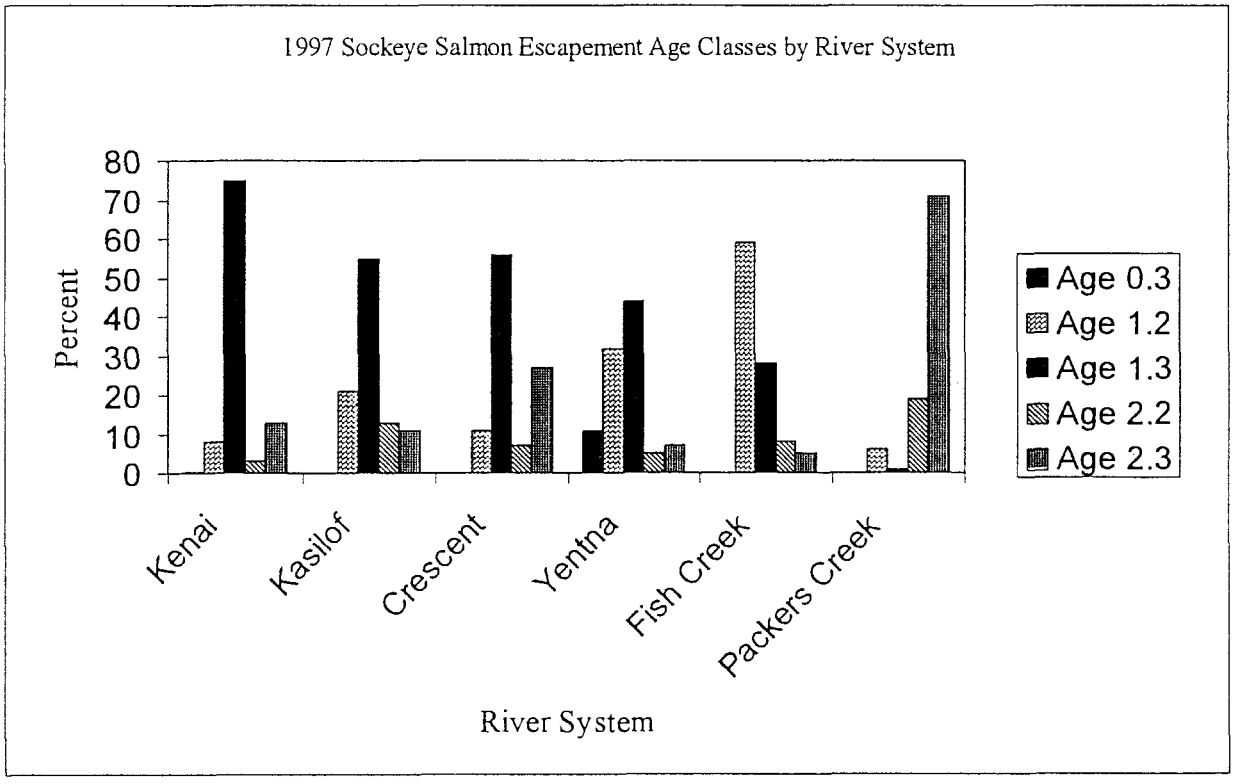
Escapement

A minimum of 1,806,475 sockeye salmon escaped the commercial fishery and entered the major rivers and streams of UCI (Tables 2, 3 and 10-17). Sockeye salmon escapements in descending order of abundance were 1,064,818 fish in Kenai River, 307,752 fish in Susitna River, 266,025 fish in Kasilof River, 70,768 fish in Crescent River, 54,656 fish in Fish Creek, and 42,456 fish in Packers Creek. The estimate of total Susitna River escapement represents the combined escapement at Yentna River sonar

site plus an estimate of the mainstem Susitna River based on the historical relation of Yentna River (x) to Sunshine Station (y) from 1981-85 (the only years of comparison) which yielded the following function:

$$y = 0.95 * x.$$

The predominant age classes in the total UCI sockeye escapement were age 1.2 (13.9%), age 1.3 (64.6%), age 2.2 (5.4%) and age 2.3 (13.9%, Table 3; Figure 7). Chi-square tests between river escapement age compositions were all highly significant ($P<0.0001$) indicating age composition differences. Individual age class composition by river is presented below:



Major age class percentages, number of fish, and mean lengths in the Kenai River sockeye escapement were:

Age Class	%	Escapement	Mean Length
1.2	7.6	80,718	485 mm
1.3	75.2	800,549	582 mm
2.2	2.8	29,855	498 mm
2.3	13.0	138,216	581 mm

The overall mean length of Kenai River sockeye was 571 mm. Females comprised 51% of the Kenai River escapement (Table 10).

Hidden Creek, a tributary of the Kenai River, had an escapement of 56,053 sockeye represented by age-1.2 (77.5%), age-1.3 (17.6%), age-2.2 (3.1%) and age-2.3 (1.8%) fish. Female composition in Hidden Creek was 55% (Table 11).

Age composition in the mainstem escapement was significantly (x^2=861.2, df=3, P<0.05) different from the escapement in Hidden Creek due primarily to ages 1.2 and 1.3.

Kasilof River escapement age class percentages, number of fish and mean lengths were:

Age Class	%	Escapement	Mean Length
1.2	21.1	56,154	454 mm
1.3	54.8	145,646	548 mm
2.2	13.5	35,798	454 mm
2.3	10.7	28,427	536 mm

The overall mean length of Kasilof River escapement sockeye was 514 mm. Females comprised 48.7% of the Kasilof River escapement (Tables 3 and 12).

Crescent River escapement was 70,768 sockeye salmon with the following major age class percentages, number of fish and mean lengths:

Age Class	%	Escapement	Mean Length
1.2	10.6	7,519	470 mm
1.3	55.9	39,586	578 mm
2.2	6.6	4,644	486 mm
2.3	26.6	18,797	579 mm

The overall mean length of Crescent River escapement sockeye was 561 mm. Females comprised 48.4% of the Crescent River escapement (Tables 3 and 13).

Packers Creek sockeye salmon escapement was 42,456 fish. The major age class percentages, number of fish, and mean lengths were:

Age Class	%	Escapement	Mean Length
1.2	6.1	2,586	445 mm
1.3	0.6	250	532 mm
2.2	19.3	8,174	452 mm
2.3	70.9	30,112	532 mm

The overall mean length of Packers Creek sockeye was 510 mm. Females comprised 74.3% of the total escapement (Tables 3 and 14).

The Yentna River, a tributary of the Susitna River, had an escapement of 157,822 sockeye salmon. The major age class percentages, number of fish and mean lengths were:

Age Class	%	Escapement	Mean Length
0.3	10.5	16,602	580 mm
1.2	32.4	51,066	479 mm
1.3	43.7	68,930	569 mm
2.3	7.2	11,348	565 mm

The overall mean length of Yentna River sockeye was 534 mm. Female composition in the escapement was 51.5% (Tables 3 and 15).

Chelatna Lake which drains into Lake Creek, a tributary of the Yentna River, had an estimated escapement of 84,899 sockeye (Table 16). The major age classes, number of fish, and mean lengths were:

Age Class	%	Escapement	Mean Length
0.3	15.9	13,517	560 mm
1.2	31.7	26,871	503 mm
1.3	50.7	43,027	562 mm

The overall mean length of Chelatna Lake sockeye was 543mm. Females comprised 46.2% of the escapement (Table 16).

A comparison of the major age structures between Chelatna Lake (Lake Creek) and Yentna River was not statistically significant (χ^2=5.59, df=2 P>0.05). The overall mean length of Chelatna Lake fish (543mm) was slightly larger than Yentna River fish (534 mm).

This year a weir was placed in Larson Creek that flows into the Talkeetna River, a tributary of the Susitna River. The escapement through the weir was 40,282 sockeye. Age composition was as follows: age 1.2 (36.2%), age 1.3 (52.6%), age 2.2 (3.9%), and age 2.3 (7.3%). These results and more details are provided in a report prepared by Carlson et al. (1998). Age composition was similar among the three locations sampled in the Susitna River drainage except for the age 0.3 component that was only found in the Yentna River drainage.

Fish Creek sockeye age class percentages, number of fish, and mean lengths were:

Age Class	%	Escapement	Mean Length
1.2	58.8	32,127	471 mm
1.3	27.7	15,154	539 mm
2.2	8.0	4,344	479 mm
2.3	5.2	2,829	542 mm

The overall mean length of Fish Creek sockeye was 494 mm. Females comprised 60.0% of the escapement (Tables 3 and 17).

Chinook Salmon

The total commercial harvest of chinook salmon in 1997 was 13,235 fish (Table 2) which was slightly below the long-term average harvest of 16,293 fish. The Upper Subdistrict set gillnet fishery harvest was 11,281 or 85.2% of the UCI harvest (Table 18). The predominant age class percentages, number of fish and mean lengths in the Upper Subdistrict were:

Age Class	%	Harvest	Mean Length
1.2	13.5	1,524	632 mm
1.3	31.1	3,506	858 mm
1.4	45.6	5,149	1,003 mm

The overall mean length was 868 mm, and females accounted for 41% of the commercial harvest (Table 18). Age and length composition was similar to past years except for the first sampling period (27 June- 7 July) where there was an unusually large number (21%) of male age-1.1 chinook.

Late run chinook salmon escapement entering the Kenai River was estimated at 29,105 fish (Table 2).

Coho Salmon

The coho salmon commercial harvest of 152,404 fish was significantly below the long-term average of 363,049 fish. Coho salmon were sampled from three gillnet fisheries which represented 87.6% of the total UCI harvest (Table 19). Age-2.1 coho accounted for the bulk of the harvest:

	Age 2.1	Harvest	Mean Length
Central District drift gillnet	77.6%	61,070	570 mm
Upper Subdistrict set gillnet	77.9%	15,319	547 mm
General Subdistrict set gillnet	79.5%	27,943	554 mm

Age-1.1 (16.5%) and age-3.1 (5.4%) accounted for the remainder of the total monitored coho harvests (Tables 20-22). Mean lengths for all three age groups combined were, on average, larger in the Central District drift harvest (566 mm) than in the Upper Subdistrict (544 mm) or General Subdistrict harvests (552 mm; Table 19). Age and length composition was similar as in past years.

Females represented from 47% in the General Subdistrict set gillnet harvest to 58% in the Upper Subdistrict set gillnet harvest (Table 19).

Age composition differences of the three major age classes (1.1, 2.1, 3.1) between the Central District Drift and the Upper Subdistrict set gillnet harvests were significant (χ^2=3.76, df=2, P=<0.05). No age composition differences were observed between the Central District Drift and the General Subdistrict set gillnet harvests (χ^2=0.57, df=2, P=<0.05). There was a significant difference between the Upper Subdistrict and General Subdistrict set gillnet harvests (χ^2=6.30, df=2, P=<0.05).

Chum Salmon

The chum salmon commercial harvest of 103,036 fish was significantly below the long-term average of 595,061 fish. Chum salmon were sampled from the commercial drift gillnet harvest of 92,163 fish, which made up 89% of the total commercial harvest. The major age class percentages, number of fish, and mean lengths were:

Age Class	%	Harvest	Mean Length
0.2	1.5	1,378	574 mm
0.3	76.1	70,123	605 mm
0.4	18.8	17,281	622 mm
0.5	3.7	3,381	641 mm

The chum age composition in the drift gillnet fishery indicated a good return of age-0.3 fish after a significant drop in percent the last two years.

Females represented 54.6% of the chum salmon harvest (Table 23).

LITERATURE CITED

Bethe, M.L., P.V. Krasnowski, and S. Marshall. 1980. Origins of sockeye salmon in the Upper Cook Inlet fishery of 1978 based on scale pattern analysis. Alaska Department of Fish and Game, Commercial Fisheries Division, Informational Leaflet 186, Juneau.

Carlson, Stan R., P.A. Shield, and D.C. Schmidt. 1998. Sockeye salmon escapement and mark-recapture studies at Larson Lake in 1997. Alaska Department of Fish and Game, Division of Commercial Fisheries Management and Development, Regional Information Report 2A98-23, Anchorage.

Clutter, R., and L. Whitesel. 1956. Collection and interpretation of sockeye salmon scales. Bulletin International Pacific Salmon Fisheries Commission, No. 9, New Westminster, B.C.

Cochran, W. 1977. Sampling Techniques, 3rd Edition. John Wiley and Sons, Inc., New York.

Cross, B.A., S.L. Marshall, T.L. Robertson, G.T. Oliver, and S. Sharr. 1981. Origins of sockeye salmon in the Upper Cook Inlet fishery of 1979 based on scale pattern analysis. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 58, Juneau.

Cross, B.A., S.L. Marshall, G.T. Oliver, and S. Sharr. 1982. Origins of sockeye salmon in the Upper Cook Inlet fishery of 1980 based on scale pattern analysis. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 68, Juneau.

Cross, B.A., S.L. Marshall, G.T. Oliver, and D.L. Hicks. 1983. Origins of sockeye salmon in the Upper Cook Inlet fishery of 1981 based on scale pattern analysis. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 83, Juneau.

Cross, B.A., D.L. Hicks, and W.E. Goshert. 1985. Origins of sockeye salmon in the fisheries of Upper Cook Inlet in 1982. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 139, Juneau.

Cross, B. 1985. Abundance, age, sex, and size data for Upper Cook Inlet sockeye, chinook, coho, chum, and pink salmon, 1983. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 159, Juneau.

Cross, B.A., W.E. Goshert, and B.L. Stratton. 1987. Catch, age, sex, and length data for Upper Cook Inlet chinook, coho, and chum salmon 1984-1986. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report, Anchorage.

Davis, A.S., and P.D. Kissner. 1969. Sockeye salmon investigations. Alaska Department of Fish and Game, Division of Commercial Fisheries, Annual Technical Report, Juneau.

LITERATURE CITED (Continued)

Davis, R.Z., and K.E. Tarbox. 1985. Age, length, and weight data of sockeye salmon collected in Upper Cook Inlet, 1964-81. Alaska Department of Fish and Game, Division of Commercial Fisheries, Upper Cook Inlet Data Report 85-7, Soldotna.

Davis, R.Z. and B.E. King. 1996. Upper Cook Inlet salmon escapement studies, 1995. Alaska Department of Fish and Game, Division of Commercial Fisheries Management and Development, Regional Information Report 2A96-13, Anchorage.

Koo, T.S.Y. 1955. Biology of the red salmon, *Oncorhynchus nerka* (Walbaum), of Bristol Bay, Alaska as revealed by a study of their scales. Doctoral dissertation, University of Washington, Seattle.

Koo, T.S.Y. 1962. Age Determination in Salmon. Pages 37-48 *in* Studies of Alaska Red Salmon, T. S. Y. Koo, editor. University of Washington Press, Seattle.

Mosher, K. 1969. Identification of Pacific salmon and steelhead trout by scale characteristics. United States Department of the Interior, Circular 317, Washington, D.C.

Ruesch, P.H., and J. Fox. 1998. Upper Cook Inlet commercial fisheries annual management report, 1997. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 2A98-21, Anchorage.

Thompson, S.K. 1987. Sample size for estimating multinomial proportions. The American Statistician 41:42-46.

Tobias, T.M., D.L. Waltemyer, and K.E. Tarbox. 1994. Scale aging manual for Upper Cook Inlet Sockeye Salmon. Alaska Dept. of Fish and Game, Division of Commercial Fisheries Management and Development, Regional Information Report 2A94-36, Anchorage.

Tobias, T.M., and D.L. Waltemyer. 1996. Abundance, age, sex and size of chinook, sockeye, coho and chum salmon returning to Upper Cook Inlet, Alaska, in 1995. Alaska Department of Fish and Game, Division of Commercial Fisheries Management and Development, Regional Information Report 2A96-26, Anchorage.

Waltemyer, D.L. 1989. Age and size composition of chinook, sockeye, coho, and chum salmon returning to Upper Cook Inlet, Alaska, in 1987. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Fishery Report 89-18, Juneau.

Waltemyer, D.L. 1990. Abundance, age, sex, and size of chinook, sockeye, coho, and chum salmon returning to Upper Cook Inlet, Alaska in 1988. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Fishery Report 90-07, Juneau.

LITERATURE CITED (Continued)

Waltemyer, D.L. 1991. Abundance, age, sex, and size of chinook, sockeye, coho, and chum salmon returning to Upper Cook Inlet, Alaska in 1989. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Fishery Report 91-17, Juneau.

Waltemyer, D.L. 1993. Abundance, age, sex and length of chinook, sockeye, coho and chum salmon returning to Upper Cook Inlet, Alaska, in 1990. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Fishery Report 93-02, Juneau.

Waltemyer, D.L. 1994a. Age, sex and size composition of chinook, sockeye, coho and chum salmon returning to Upper Cook Inlet, Alaska, in 1991. Alaska Department of Fish and Game, Division of Commercial Fisheries Management and Development, Technical Fishery Report 94-11, Juneau.

Waltemyer, D.L. 1994b. Abundance, age, sex and size of chinook, sockeye, coho and chum salmon returning to Upper Cook Inlet, Alaska, in 1993. Alaska Department of Fish and Game, Division of Commercial Fisheries Management and Development, Regional Information Report 2A94-30, Anchorage.

Waltemyer, D.L. 1995a. Abundance, age, sex and size of chinook, sockeye, coho and chum salmon returning to Upper Cook Inlet, Alaska, in 1992. Alaska Department of Fish and Game, Division of Commercial Fisheries Management and Development, Technical Fishery Report 95-04, Juneau.

Waltemyer, D.L. 1995b. Abundance, age, sex and size of chinook, sockeye, coho and chum salmon returning to Upper Cook Inlet, Alaska, in 1994. Alaska Department of Fish and Game, Division of Commercial Fisheries Management and Development, Regional Information Report 2A95-37, Anchorage.

Waltemyer, D.L., and T.M. Tobias. 1997. Abundance, age, sex and size of chinook, sockeye, coho and chum salmon returning to Upper Cook Inlet, Alaska, in 1996. Alaska Department of Fish and Game, Division of Commercial Fisheries Management and Development, Regional Information Report 2A97-15, Anchorage.

Table 1. Number of salmon sampled from selected commercial gillnet harvests and escapements in Upper Cook Inlet, Alaska, in 1996.

Location[a]	Species			
	Chinook	Sockeye	Coho	Chum
Commercial Catch:				
Central District				
Drift		5,500	730	1,000
Upper Subdistrict[b]	2,624		1,039	
Cohoe/Ninilchik Beach		3,500		
Kalifonsky Beach		2,739		
Salamatof Beach		2,000		
Western Subdistrict[c]				
Northern District				
Eastern Subdistrict		1,000		
General Subdistrict		1,400	920	
Subtotal	2,624	16,139	2,689	1,000
Escapement:				
Central District				
Kenai River				
Mainstem late run[d]		778		
Hidden Creek[e]		820		
Kasilof River				
Mainstem[f]		750		
Crescent River		465		
Packers Creek[e]		627		
Northern District				
Susitna River				
Yentna River		837		
Chelatna Lake (Lake Creek)[e]		754		
Fish Creek[g]		500		
Subtotal		5,531		
Total	2,624	21,670	2,689	1,000

[a] Specific locations not footnoted were sampled by Commercial Fisheries Management and Development (CFM&D) Division personnel, Alaska Department of Fish and Game (ADF&G).
[b] Represents pooled samples from the Upper Subdistrict commercial set gillnet fisheries.
[c] Western Subdistrict was not sampled in 1996.
[d] This total represents samples collected on a daily basis and special samples taken through the season. The primary sample goal of 0.10% of the previous day's escapement (sonar count) was sampled for age composition.
[e] Samples collected by Cook Inlet Aquaculture Association (CIAA) personnel.
[f] This total represents samples collected on a daily basis and special samples taken through the season. The primary sample goal of 0.35% of the previous day's escapement (sonar count) was sampled for age composition.
[g] Samples collected by Sport Fish Division personnel, ADF&G.

Table 2. Number of salmon commercially harvested and escapements into the major river systems of Upper Cook Inlet, Alaska, in 1997.

Fishery		Chinook	Sockeye	Coho	Pink	Chum	Total
Commercial Harvest:							
A. Northern District Total		1,120	97,451	37,369	4,269	7,881	148,090
1. Northern District West		932	87,087	35,150	3,940	7,446	134,555
a. Trading Bay	247-10	262	8,454	1,965	272	94	11,047
b. Tyonek	247-20	275	15,519	7,472	1,034	740	25,040
c. Beluga	247-30	159	39,926	16,865	2,187	4,225	63,362
d. Susitna Flat	247-41	119	4,239	3,843	140	896	9,237
e. Pt. Mackenzie	247-42	71	2,373	1,140	48	258	3,890
f. Fire Island	247-43	45	3,352	3,748	257	1,191	8,593
g. Knik Arm	247-50	1	13,224	117	2	42	13,386
2. Northern District East		188	10,364	2,219	329	435	13,535
a. Pt. Possession	247-70	160	5,000	2,054	213	430	7,857
b. Birch Hill	247-80	10	1,370	88	26	3	1,497
c. Number 3 Bay	247-90	18	3,994	77	90	2	4,181
B. Central District Total		12,115	4,079,245	115,035	66,659	95,155	4,368,209
1. East Side Set Total		11,281	1,832,816	19,668	32,046	1,222	1,897,033
a. Salamatof	244-40	2,197	694,110	11,244	5,085	312	712,948
b. Kalifonsky Beach	244-30	3,932	492,739	3,883	3,918	507	504,979
c. Cohoe/Ninilchik		5,152	645,967	4,541	23,043	403	679,106
1. Cohoe	244-22	2,872	405,545	3,037	10,169	240	421,863
2. Ninilchik	244-21	2,280	240,422	1,504	12,874	163	257,243
2. West Side Set Total		74	11,891	5,691	1,939	1,451	21,246
a. Little Jack Slough	245-50	0	6,420	1,935	0	26	8,381
b. Polly Creek	245-40	6	102	15	0	0	123
c. Tuxedni Bay	245-30	68	5,031	3,646	1,938	1,339	12,022
d. Silver Salmon	245-20	0	338	295	1	86	720
3. Kustatan Total		105	7,903	1,898	464	10	10,380
a. Big River	245-55	86	2,408	0	0	0	2,494
b. West Foreland	245-60	19	5,495	1,898	464	10	7,886
4. Kalgin Island Total		28	28,727	8,905	2,287	207	40,184
a. West Side	246-10	25	17,526	7,360	1,675	189	26,775
b. East Side	246-20	3	11,231	1,545	612	18	13,409
5. Chinitna Bay Total		0	172	11	11	102	296
a. Set	245-10	0	172	11	11	102	296
6. Central District Set Total		11,488	1,8815397	36,373	36,747	2,992	1,969,139
7. Central District Drift Total		627	2,197,706	76,662	29,912	92,163	2,399,070
a. West Side	245-70,80,90	31	387,091	12,228	2,612	10,466	145,459
b. East Side	244-50,60,70	596	1,817,842	66,434	27,300	81,697	2,253,611
Commercial Harvest Total		13,235	4,176,696	152,404	70,928	103,036	4,516,299
Escapement:							
Kenai River		29,105[a]	1,064,818				
Kasilof River			266,025				
Crescent River			70,768				
Packers Creek			42,456				
Susitna River[c]			307,752				
Yentna River			157,822				
Fish Creek			54,656				
Escapement Total		29,105	1,806,475				
Upper Cook Inlet Total		42,340	5,983,171[b]	152,404	70,928	103,036	6,351,879

[a]Late run only. Source: S. Hammarstrom, ADF&G, Soldotna, personal communication.
[b]Total does not include other unmonitored escapements, sport, personal use and subsistence harvests that were estimated at 587,000 fish for an estimated total Upper Cook Inlet return of 6.5 million sockeye salmon.
[c]Susitna River escapement comprises the Yentna River escapement of 157,822 fish plus an estimate of Susitna mainstem escapement based on the relation: Sunshine equals 95% of the Yentna escapement developed using comparative data from 1981-85. Combining Yentna and Sunshine equals the total Susitna River escapement.

Table 3. Age, length and sex composition of sockeye salmon in selected commercial gillnet harvests and river escapements, Upper Cook Inlet, Alaska, in 1997.

	Age Group												
LOCATION	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Total
COMMERCIAL HARVEST													
Central District													
Central Drift													
Number	315		35,295	139,438		1,574,212	71,745	7,057	366,691		1,014	1,939	2,197,706
Percent	.01		1.61	6.34		71.63	3.26	.32	16.69		.05	.09	100.00
Sample Size	1		62	302		3,169	154	12	751		2	3	4,456
Mean Length[a]	484		579	499		589	501	629	584		638	545	580
% Female			49	31		58	32	33	57			74	55
Cohoe/Ninilchik Beach													
Number		115	2,686	85,114		396,271	66,579	1,205	92,772	1,078	147		645,967
Percent		.02	.42	13.18		61.35	10.31	.19	14.36	.17	.02		100.00
Sample Size		1	16	407		1,940	311	4	455	6	1		3,141
Mean Length		321	557	475		570	479	592	559	545	655		547
% Female			76	41		53	45	52	49	59	100		50
Kalifonsky Beach													
Number			1,064	60,214	212	314,130	34,073	2,749	80,085	212			492,739
Percent			.22	12.22	.04	63.75	6.92	.56	16.25	.04			100.00
Sample Size			5	293	1	1,467	166	12	369	1			2,314
Mean Length			560	466	393	576	471	624	566	511			554
% Female			76	48	100	53	41	14	53	100			51
Salamatof Beach													
Number			2,075	27,542		544,824	23,217	885	94,947		620		694,110
Percent			.30	3.97		78.49	3.34	.13	13.68		.09		100.00
Sample Size			4	51		1,091	41	2	186		1		1,376
Mean Length			573	486		581	488	642	575		628		573
% Female				49		54	56		55				54

-continued-

Table 3. (page 2 of 4)

LOCATION	Age Group 0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Total
COMMERCIAL HARVEST (continued)													
Northern District													
Eastern Subdistrict													
Number			162	2,591	46	4,326	1,296		1,874	46		23	10,364
Percent			1.56	25.00	.44	41.74	12.50		18.08	.44		.22	100.00
Sample Size			7	112	2	187	56		81	2		1	448
Mean Length			550	475	395	563	484		561	493		537	529
% Female			28	51	50	45	52		46	50			47
General Subdistrict													
Number	426		7,740	18,578		49,509	4,386		6,448				87,087
Percent	.49		8.89	21.33		56.85	5.04		7.40				100.00
Sample Size	4		72	173		456	42		61				808
Mean Length	457		569	504		572	501		565				552
% Female	50		55	48		49	47		55				50
COMMERCIAL HARVEST TOTAL													
Number	741	115	49,022	333,477	258	2,883,272	201,296	11,896	642,817	1,336	1,781	1,962	4,127,973[b]
Percent	.02	.00	1.19	8.08	.01	69.85	4.88	.29	15.57	.03	.04	.05	100.00
Sample Size	5	1	166	1,338	3	8,310	770	30	1,903	9	4	4	12,543
Mean Length	469	321	576	486	393	583	487	625	577	538	636	545	570
% Female	29		50	39	91	56	41	28	55	65	8	73	53

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Table 3. (Page 3 of 4)

LOCATION	Age Group 0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Total
ESCAPEMENT													
Central District													
Kenai River													
Number	1,106	3,317	80,718	4,422	800,549	29,855	4,423	138,216	1,106	1,106			1,064,818
Percent	.10	.31	7.58	.42	75.18	2.80	.42	12.98	.10	.10			100.00
Sample Size	1	3	73	4	724	27	4	125	1	1			963
Mean Length	357	566	485	387	582	498	607	581	541	550			571
% Female		100	53	50	49	56	25	58	100	100			51
Kasilof River													
Number			56,154		145,646	35,798		28,427					266,025
Percent			21.11		54.75	13.46		10.69					100.00
Sample Size			160		415	102		81					758
Mean Length			454		548	454		536					514
% Female			50		46	54		52					49
Crescent River													
Number			7,519	111	39,586	4,644		18,797		111			70,768
Percent			10.62	.16	55.94	6.56		26.56		.16			100.00
Sample Size			68	1	358	42		170		1			640
Mean Length			470	308	578	486		579		673			561
% Female			26		54	29		51					48
Packers Creek													
Number			2,586		250	8,174		30,112	1,084	167	83		42,456
Percent			6.09		.59	19.25		70.93	2.55	.39	.20		100.00
Sample Size			31		3	98		361	13	2	1		509
Mean Length			445		532	452		532	465	548	500		510
% Female			55		67	55		81	62	100	100		74

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Table 3. (Page 4 of 4)

LOCATION	Age Group 0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Total
ESCAPEMENT (continued)													
Northern District													
Yentna River													
Number	1,681	210	16,602	51,066	210	68,930	7,355	210	11,348			210	157,822
Percent	1.07	.13	10.52	32.36	.13	43.68	4.66	.13	7.19			.13	100.00
Sample Size	8	1	79	243	1	328	35	1	54			1	751
Mean Length	425	340	580	479	330	569	475	549	565			519	534
% Female		100	48	55		53	57	100	37			100	52
Fish Creek													
Number		101		32,127		15,154	4,344	101	2,829				54,656
Percent		.18		58.78		27.73	7.95	.18	5.18				100.00
Sample Size		1		318		150	43	1	28				541
Mean Length		395		471		539	479	545	542				494
% Female				58		60	60	100	75				60
ESCAPEMENT TOTAL													
Number	1,681	1,417	19,919	230,170	4,743	1,070,115	90,170	4,734	229,729	2,190	1,384	293	1,656,545
Percent	.10	.09	1.20	13.89	.29	64.60	5.44	.29	13.87	.13	.08	.02	100.00
Sample Size	8	3	82	893	6	1,978	347	6	819	14	4	2	4,162
Mean Length	425	357	577	473	382	576	473	603	567	503	560	514	554
% Female		15	57	53	47	49	54	30	59	81	92	100	51
UPPER COOK INLET TOTAL													
Number	2,422	1,532	68,941	563,647	5,001	3,953,387	291,466	16,630	872,546	3,526	3,165	2,255	5,784,518
Percent	.04	.03	1.19	9.74	.09	68.34	5.04	.29	15.08	.06	.05	.04	100.00
Sample Size	13	4	248	2,231	9	10,288	1,117	36	2,722	23	8	6	16,705
Mean Length	439	354	576	481	383	581	483	619	574	517	602	541	565
% Female	9	14	52	45	49	54	45	29	56	75	45	76	53

[a]Mean length in mm.
[b]Total does not include the Kalgin Island, Kustatan, and Western Subdistrict's commercial harvest of 48,723 fish that were not sampled.
[c]Yentna River represents 51% of the Susitna River total escapement based on the relation: Sunshine equals 95% of Yentna. This relation was developed from the years of comparable data 1981-85 when the Yentna and Sunshine sites were operating. Therefore, the total Susitna River escapement estimate for 1997 is 307,752 fish.

Table 4. Age, sex and length composition of sockeye salmon in the Central District commercial drift gillnet harvest, Upper Cook Inlet, Alaska, in 1997.

	Age Group									
	0.2	0.3	1.2	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 1: 27 June[a]										
Males			672	12,099	471		3,092			16,334
Percent			2.32	41.76	1.63		10.67			56.38
Sample Size			10	180	7		46			243
Mean Length[b]			502	566	499		561			560
Std. Error			9	2	14		5			2
Sample Size			10	180	7		46			243
Females			336	10,083	134		2,084			12,637
Percent			1.16	34.80	0.46		7.19			43.62
Sample Size			5	150	2		31			188
Mean Length			502	559	504		569			558
Std. Error			13	2	15		4			2
Sample Size			5	150	2		31			188
Both Sexes			1,008	22,182	605		5,176			28,971
Percent			3.48	76.57	2.09		17.87			100.00
Sample Size			15	330	9		77			431
Mean Length			502	563	500		564			559
Std. Error			7	2	11		4			1
Sample Size			15	330	9		77			431

-Continued-

Table 4. (page 2 of 11)

	Age Group								
	0.2	0.3	1.2	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 2: 30 June - 2 July[c]										
Males		508	4,403	21,168	1,524		5,250			32,853
Percent		0.69	5.99	28.80	2.07		7.14			44.70
Sample Size		3	26	125	9		31			194
Mean Length		604	505	578	484		587			565
Std. Error		7	5	3	6		5			2
Sample Size		3	26	125	9		31			194
Females		677	1,016	32,175	1,355		5,419			40,642
Percent		0.92	1.38	43.78	1.84		7.37			55.30
Sample Size		4	6	190	8		32			240
Mean Length		549	507	568	525		572			566
Std. Error		14	14	2	15		5			2
Sample Size		4	6	190	8		32			240
Both Sexes		1,185	5,419	53,343	2,879		10,669			73,495
Percent		1.61	7.37	72.58	3.92		14.52			100.00
Sample Size		7	32	315	17		63			434
Mean Length		573	505	572	504		579			566
Std. Error		9	5	2	8		4			1
Sample Size		7	32	315	17		63			434

-Continued-

Table 4. (page 3 of 11)

	Age Group								
	0.2	0.3	1.2	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 3: 4 - 5 July[d]										
Males		193	7,915	24,902	2,124		6,950			42,084
Percent		0.23	9.23	29.05	2.48		8.11			49.10
Sample Size		1	41	129	11		36			218
Mean Length		573	496	576	490		568			555
Std. Error			4	3	9		6			2
Sample Size		1	41	129	11		36			218
Females		579	1,930	30,503	1,158		9,266		193	43,629
Percent		0.68	2.25	35.59	1.35		10.81		0.23	50.90
Sample Size		3	10	158	6		48		1	226
Mean Length		545	509	573	506		579		600	570
Std. Error		15	8	2	16		4			2
Sample Size		3	10	158	6		48		1	226
Both Sexes		772	9,845	55,405	3,282		16,216		193	85,713
Percent		0.90	11.49	64.64	3.83		18.92		0.23	100.00
Sample Size		4	51	287	17		84		1	444
Mean Length		552	498	575	496		575		600	563
Std. Error		15	4	2	8		3			2
Sample Size		4	51	287	17		84		1	444

-Continued-

Table 4. (page 4 of 11)

	Age Group									
	0.2	0.3	1.2	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 4: 7 - 9 July*										
Males	315	1,577	11,042	39,754	7,887	315	8,834			69,724
Percent	0.22	1.12	7.81	28.13	5.58	0.22	6.25			49.33
Sample Size	1	5	35	126	25	1	28			221
Mean Length	484	593	497	589	496	655	579			563
Std. Error		13	6	3	6		8			2
Sample Size	1	5	35	126	25	1	28			221
Females		1,577	5,994	50,164	2,208	315	11,358			71,616
Percent		1.12	4.24	35.49	1.56	0.22	8.04			50.67
Sample Size		5	19	159	7	1	36			227
Mean Length		574	503	575	490	620	565			565
Std. Error		15	7	2	11		4			2
Sample Size		5	19	159	7	1	36			227
Both Sexes	315	3,154	17,036	89,918	10,095	630	20,192			141,340
Percent	0.22	2.23	12.05	63.62	7.14	0.45	14.29			100.00
Sample Size	1	10	54	285	32	2	64			448
Mean Length	484	584	499	581	495	638	571			564
Std. Error		10	5	2	5		4			2
Sample Size	1	10	54	285	32	2	64			448

-Continued-

Table 4. (page 5 of 11)

	Age Group								
	0.2	0.3	1.2	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 5: 10 - 13 July[f]										
Males		4,956	19,825	133,819	8,673	1,239	28,498			197,010
Percent		0.89	3.56	24.00	1.56	0.22	5.11			35.33
Sample Size		4	16	108	7	1	23			159
Mean Length		569	508	600	507	611	598			586
Std. Error		19	9	3	16		7			3
Sample Size		4	16	108	7	1	23			159
Females		4,956	9,912	276,311	3,717	1,239	63,192		1,239	360,566
Percent		0.89	1.78	49.56	0.67	0.22	11.33		0.22	64.67
Sample Size		4	8	223	3	1	51		1	291
Mean Length		572	511	585	536	643	577		515	581
Std. Error		20	10	2	16		4			1
Sample Size		4	8	223	3	1	51		1	291
Both Sexes		9,912	29,737	410,130	12,390	2,478	91,690		1,239	557,576
Percent		1.78	5.33	73.56	2.22	0.44	16.44		0.22	100.00
Sample Size		8	24	331	10	2	74		1	450
Mean Length		571	509	590	516	627	584		515	583
Std. Error		14	7	1	12		3			1
Sample Size		8	24	331	10	2	74		1	450

-Continued-

Table 4. (page 6 of 11)

	Age Group								
	0.2	0.3	1.2	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 6: 14 July[9]										
Males	4,557	13,020	83,976	3,255	651	19,529				124,988
Percent	1.55	4.42	28.48	1.10	0.22	6.62				42.38
Sample Size	7	20	129	5	1	30				192
Mean Length	607	516	609	515	575	612				597
Std. Error	9	6	3	16		5				2
Sample Size	7	20	129	5	1	30				192
Females	4,557	1,953	134,102	3,906		25,388				169,906
Percent	1.55	0.66	45.47	1.32		8.61				57.62
Sample Size	7	3	206	6		39				261
Mean Length	575	505	587	507		592				585
Std. Error	6	14	2	14		4				1
Sample Size	7	3	206	6		39				261
Both Sexes	9,114	14,973	218,078	7,161	651	44,917				294,894
Percent	3.09	5.08	73.95	2.43	0.22	15.23				100.00
Sample Size	14	23	335	11	1	69				453
Mean Length	591	515	595	511	575	601				590
Std. Error	6	5	1	10		3				1
Sample Size	14	23	335	11	1	69				453

-Continued-

Table 4. (page 7 of 11)

	Age Group								
	0.2	0.3	1.2	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 7: 17 - 19 July[h]										
Males	3,519	17,594	124,037	14,075	880	28,150				188,255
Percent	0.89	4.46	31.47	3.57	0.22	7.14				47.77
Sample Size	4	20	141	16	1	32				214
Mean Length	601	490	604	486	663	577				581
Std. Error	29	8	2	9		9				2
Sample Size	4	20	141	16	1	32				214
Females	3,519	14,955	148,669	5,278		33,428				205,849
Percent	0.89	3.79	37.72	1.34		8.48				52.23
Sample Size	4	17	169	6		38				234
Mean Length	561	472	582	477		577				571
Std. Error	13	6	2	10		5				2
Sample Size	4	17	169	6		38				234
Both Sexes	7,038	32,549	272,706	19,353	880	61,578				394,104
Percent	1.79	8.26	69.20	4.91	0.22	15.62				100.00
Sample Size	8	37	310	22	1	70				448
Mean Length	581	482	592	484	663	577				575
Std. Error	16	5	2	7		5				1
Sample Size	8	37	310	22	1	70				448

-Continued-

Table 4. (page 8 of 11)

	Age Group									
	0.2	0.3	1.2	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 8: 20 - 24 July[1]										
Males			6,736	88,181	4,287	612	22,657			122,473
Percent			2.43	31.86	1.55	0.22	8.19			44.25
Sample Size			11	144	7	1	37			200
Mean Length			487	607	528	658	602			597
Std. Error			11	3	7		6			2
Sample Size			11	144	7	1	37			200
Females			1,837	122,472	3,674		26,332			154,315
Percent			0.66	44.25	1.33		9.51			55.75
Sample Size			3	200	6		43			252
Mean Length			512	582	503		587			580
Std. Error			8	2	12		3			1
Sample Size			3	200	6		43			252
Both Sexes			8,573	210,653	7,961	612	48,989			276,788
Percent			3.10	76.11	2.88	0.22	17.70			100.00
Sample Size			14	344	13	1	80			452
Mean Length			493	592	516	658	594			588
Std. Error			9	1	7		3			1
Sample Size			14	344	13	1	80			452

-Continued-

Table 4. (page 9 of 11)

	Age Group								
	0.2	0.3	1.2	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 9: 25 July[1]										
Males		792	5,019	42,263	2,641	528	10,566			61,809
Percent		0.66	4.21	35.48	2.22	0.44	8.87			51.88
Sample Size		3	19	160	10	2	40			234
Mean Length		605	507	604	499	634	610			593
Std. Error		5	6	2	11	10	4			2
Sample Size		3	19	160	10	2	40			234
Females		792	1,585	43,319	1,321	264	10,037			57,318
Percent		0.66	1.33	36.36	1.11	0.22	8.43			48.12
Sample Size		3	6	164	5	1	38			217
Mean Length		546	506	578	496	591	571			572
Std. Error		10	4	2	19		4			2
Sample Size		3	6	164	5	1	38			217
Soth Sexes		1,584	6,604	85,582	3,962	792	20,603			119,127
Percent		1.33	5.54	71.84	3.33	0.66	17.29			100.00
Sample Size		6	25	324	15	3	78			451
Mean Length		576	506	591	498	620	591			583
Std. Error		6	5	2	10	10	3			1
Sample Size		6	25	324	15	3	78			451

-Continued-

Table 4. (page 10 of 11)

	Age Group								
	0.2	0.3	1.2	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 10: 26 July - 4 August[k]										
Males	2,029	9,637	95,859	4,057	507	24,852	1,014	507		138,462
Percent	0.90	4.27	42.47	1.80	0.22	11.01	0.45	0.22		61.35
Sample Size	4	19	189	8	1	49	2	1		273
Mean Length	584	503	596	506	643	588	638	599		586
Std. Error	6	7	2	9		5	20			2
Sample Size	4	19	189	8	1	49	2	1		273
Females	507	4,057	60,356		507	21,809				87,236
Percent	0.22	1.80	26.74		0.22	9.66				38.65
Sample Size	1	8	119		1	43				172
Mean Length	550	501	569		604	570				567
Std. Error		4	2			4				2
Sample Size	1	8	119		1	43				172
Both Sexes	2,536	13,694	156,215	4,057	1,014	46,661	1,014	507		225,698
Percent	1.12	6.07	69.21	1.80	0.45	20.67	0.45	0.22		100.00
Sample Size	5	27	308	8	2	92	2	1		445
Mean Length	577	502	586	506	624	580	638	599		578
Std. Error	6	5	2	9		3	20			1
Sample Size	5	27	308	8	2	92	2	1		445

-Continued-

Table 4. (page 11 of 11)

	Age Group									
	0.2	0.3	1.2	1.3	2.2	1.4	2.3	2.4	3.3	Total
All Periods Combined:										
Males	315	18,131	95,863	666,058	48,994	4,732	158,378	1,014	507	993,992
Percent	0.01	0.82	4.36	30.31	2.23	0.22	7.21	0.05	0.02	45.23
Sample Size	1	31	217	1,431	105	8	352	2	1	2,148
Mean Length	484	591	501	600	500	631	592	638	599	584
Std. Error		8	3	1	4	10	3	20		1
Sample Size	1	31	217	1,431	105	8	352	2	1	2,148
Females		17,164	43,575	908,154	22,751	2,325	208,313		1,432	1,203,714
Percent		0.78	1.98	41.32	1.04	0.11	9.48		0.07	54.77
Sample Size		31	85	1,738	49	4	399		2	2,308
Mean Length		567	495	581	503	625	579		526	576
Std. Error		7	3	1	5		2			1
Sample Size		31	85	1,738	49	4	399		2	2,308
Both Sexes	315	35,295	139,438	1,574,212	71,745	7,057	366,691	1,014	1,939	2,197,706
Percent	0.01	1.61	6.34	71.63	3.26	0.32	16.69	0.05	0.09	100.00
Sample Size	1	62	302	3,169	154	12	751	2	3	4,456
Mean Length	484	579	499	589	501	629	584	638	545	580
Std. Error		5	2	1	3	10	1	20		1
Sample Size	1	62	302	3,169	154	12	751	2	3	4,456

[a] All areas of Central District open 6/27 - 0700-1900.
[b] Mean length in mm.
[c] All areas of Central District except west of 152 degrees 25 minutes open 6/30. Kasilof Section open 7/02.
[d] All areas of Central District except west of 152 degrees 25 minutes open 7/04 - 0700-1900.
Kasilof Section open 7/04 - 1900-2200 and 7/05 - 0500-2200.
[e] All areas of Central District except west of 152 degrees 25 minutes open 7/07.
Kasilof Section open 7/07 - 1900-2200, 7/08 - 0500 - 2200 and 7/09 - 1400-2200.
[f] Kasilof Section open 7/10 - 0500-1800. Kenai and Kasilof Sections open 7/11 - 0700-1900 and 7/13 - 0500-2200.
[g] Kenai and Kasilof Sections open 0500-0700. All areas of Central District open 0700-1900.
[h] Kenai and Kasilof Sections open 7/17 - 0900-2200, 7/18 - 0500-1900 and 7/19 - 1500-2200.
[i] Kenai and Kasilof Sections open 7/20 - 0600-2200, 7/21 - 0600-1900, 7/23 - 1200-2200 and 7/24 - 0600-2200.
[j] Kenai and Kasilof Sections open 0600-0700. All areas of Central District open 0700-1900.
Kenai and Kasilof Sections open 1900-2200.
[k] Kenai and Kasilof Sections open 7/26-7/31 - 0600-2200 and 8/1 - 0600-0700. All areas of Central District open 8/1 0700-1900.
Kenai and Kasilof Sections open 8/1 - 1900-2200, 8/2 0600-2200, 8/3 - 0600-2200 and 8/4 0600-0700.
All areas of Central District open 8/4 - 0700-1900.

Table 5. Age, sex and length composition of sockeye salmon in the Cohoe/Ninilchik Beach commercial set gillnet harvest, Upper Cook Inlet, Alaska, in 1997.

	Age Group									
	1.1	0.3	1.2	1.3	2.2	1.4	2.3	3.2	2.4	Total
Sample Period 1: 27 June - 5 July										
Males			6,164	35,959	4,366	257	8,219			54,965
Percent			5.34	31.18	3.79	0.22	7.13			47.66
Sample Size			24	140	17	1	32			214
Mean Length[a]			474	575	491	616	562			555
Std. Error			6	3	10		5			2
Sample Size			24	140	17	1	32			214
Females		514	3,082	44,690	2,312		9,760			60,358
Percent		0.45	2.67	38.75	2.00		8.46			52.34
Sample Size		2	12	174	9		38			235
Mean Length		558	475	557	487		547			549
Std. Error		1	7	2	5		4			2
Sample Size		2	12	174	9		38			235
Both Sexes		514	9,246	80,649	6,678	257	17,979			115,323
Percent		0.45	8.02	69.93	5.79	0.22	15.59			100.00
Sample Size		2	36	314	26	1	70			449
Mean Length		558	474	565	490	616	554			552
Std. Error		1	5	2	7		3			2
Sample Size		2	36	314	26	1	70			449

-Continued-

Table 5. (page 2 of 8)

	Age Group								
	1.1	0.3	1.2	1.3	2.2	1.4	2.3	3.2	2.4	Total
Sample Period 2: 7 - 9 July										
Males		173	5,541	22,338	3,636		7,965			39,653
Percent		0.22	7.10	28.60	4.66		10.20			50.78
Sample Size		1	32	129	21		46			229
Mean Length		475	478	571	499		565			550
Std. Error			5	3	8		7			3
Sample Size		1	32	129	21		46			229
Females			3,463	24,070	3,809		7,099			38,441
Percent			4.43	30.82	4.88		9.09			49.22
Sample Size			20	139	22		41			222
Mean Length			481	558	481		552			543
Std. Error			6	3	7		6			2
Sample Size			20	139	22		41			222
Both Sexes		173	9,004	46,408	7,445		15,064			78,094
Percent		0.22	11.53	59.43	9.53		19.29			100.00
Sample Size		1	52	268	43		87			451
Mean Length		475	479	565	490		559			546
Std. Error			4	2	5		4			2
Sample Size		1	52	268	43		87			451

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Table 5. (page 3 of 8)

	Age Group								
	1.1	0.3	1.2	1.3	2.2	1.4	2.3	3.2	2.4	Total
Sample Period 3: 10 - 11 July										
Males		293	5,723	24,065	2,788		4,989			37,858
Percent		0.43	8.48	35.65	4.13		7.39			56.09
Sample Size		2	39	164	19		34			258
Mean Length		612	485	586	478		583			563
Std. Error		6	6	3	6		8			3
Sample Size		2	39	164	19		34			258
Females		587	3,815	19,809	2,494		2,788		147	29,640
Percent		0.87	5.65	29.35	3.69		4.13		0.22	43.91
Sample Size		4	26	135	17		19		1	202
Mean Length		550	482	564	484		552		655	545
Std. Error		9	8	3	12		8			3
Sample Size		4	26	135	17		19		1	202
Both Sexes		880	9,538	43,874	5,282		7,777		147	67,498
Percent		1.30	14.13	65.00	7.83		11.52		0.22	100.00
Sample Size		6	65	299	36		53		1	460
Mean Length		571	484	576	481		572		655	555
Std. Error		6	5	2	6		6			2
Sample Size		6	65	299	36		53		1	460

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Table 5. (page 4 of 8)

	Age Group								
	1.1	0.3	1.2	1.3	2.2	1.4	2.3	3.2	2.4	Total
Sample Period 4: 13 - 14 July										
Males		186	2,701	12,854	2,236		1,956			19,933
Percent		0.45	6.55	31.15	5.42		4.74			48.31
Sample Size		2	29	138	24		21			214
Mean Length		605	483	592	487		577			564
Std. Error		15	7	3	7		10			3
Sample Size		2	29	138	24		21			214
Females		186	2,329	13,880	1,304		3,446	186		21,331
Percent		0.45	5.64	33.64	3.16		8.35	0.45		51.69
Sample Size		2	25	149	14		37	2		229
Mean Length		549	481	578	503		553	523		558
Std. Error		13	5	3	9		5	11		2
Sample Size		2	25	149	14		37	2		229
Both Sexes		372	5,030	26,734	3,540		5,402	186		41,264
Percent		0.90	12.19	64.79	8.58		13.09	0.45		100.00
Sample Size		4	54	287	38		58	2		443
Mean Length		577	482	585	493		561	523		561
Std. Error		10	4	2	5		5	11		2
Sample Size		4	54	287	38		58	2		443

-Continued-

Table 5. (page 5 of 8)

	Age Group									
	1.1	0.3	1.2	1.3	2.2	1.4	2.3	3.2	2.4	Total
Sample Period 5: 17 - 20 July										
Males	115		3,322	12,140	2,520		3,665	115		21,877
Percent	0.24		6.82	24.94	5.18		7.53	0.24		44.94
Sample Size	1		29	106	22		32	1		191
Mean Length	321		466	572	482		567	585		543
Std. Error			5	5	7		11			3
Sample Size	1		29	106	22		32	1		191
Females		115	3,436	15,805	3,322		4,009	115		26,802
Percent		0.24	7.06	32.47	6.82		8.24	0.24		55.06
Sample Size		1	30	138	29		35	1		234
Mean Length		597	483	555	487		548	531		536
Std. Error			7	4	8		7			3
Sample Size		1	30	138	29		35	1		234
Both Sexes	115	115	6,758	27,945	5,842		7,674	230		48,679
Percent	0.24	0.24	13.88	57.41	12.00		15.76	0.47		100.00
Sample Size	1	1	59	244	51		67	2		425
Mean Length	321	597	475	562	485		557	558		540
Std. Error			4	3	5		6			2
Sample Size	1	1	59	244	51		67	2		425

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Table 5. (page 6 of 8)

	Age Group								
	1.1	0.3	1.2	1.3	2.2	1.4	2.3	3.2	2.4	Total
Sample Period 6: 21 - 26 July										
Males			10,738	37,585	10,107	316	9,159			67,905
Percent			7.34	25.70	6.91	0.22	6.26			46.44
Sample Size			34	119	32	1	29			215
Mean Length			473	586	471	649	571			550
Std. Error			5	3	7		8			3
Sample Size			34	119	32	1	29			215
Females		632	12,634	47,059	9,159	632	8,212			78,328
Percent		0.43	8.64	32.18	6.26	0.43	5.62			53.56
Sample Size		2	40	149	29	2	26			248
Mean Length		539	474	559	474	553	542			533
Std. Error		10	5	2	5	25	7			2
Sample Size		2	40	149	29	2	26			248
Both Sexes		632	23,372	84,644	19,266	948	17,371			146,233
Percent		0.43	15.98	57.88	13.17	0.65	11.88			100.00
Sample Size		2	74	268	61	3	55			463
Mean Length		539	474	571	473	585	557			541
Std. Error		10	3	2	4	25	6			2
Sample Size		2	74	268	61	3	55			463

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Table 5. (page 7 of 8)

	Age Group								
	1.1	0.3	1.2	1.3	2.2	1.4	2.3	3.2	2.4	Total
Sample Period 7: 27 July - 4 August										
Males			16,211	40,693	11,248		10,918	331		79,401
Percent			10.89	27.33	7.56		7.33	0.22		53.33
Sample Size			49	123	34		33	1		240
Mean Length			467	591	463		577	540		546
Std. Error			4	3	4		8			2
Sample Size			49	123	34		33	1		240
Females			5,955	45,324	7,278		10,587	331		69,475
Percent			4.00	30.44	4.89		7.11	0.22		46.67
Sample Size			18	137	22		32	1		210
Mean Length			476	556	486		544	555		540
Std. Error			7	3	6		7			2
Sample Size			18	137	22		32	1		210
Both Sexes			22,166	86,017	18,526		21,505	662		148,876
Percent			14.89	57.78	12.44		14.44	0.44		100.00
Sample Size			67	260	56		65	2		450
Mean Length			470	573	472		561	548		543
Std. Error			4	2	3		5			2
Sample Size			67	260	56		65	2		450

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Table 5. (page 8 of 8)

	Age Group									
	1.1	0.3	1.2	1.3	2.2	1.4	2.3	3.2	2.4	Total
All Periods Combined:										
Males	115	652	50,400	185,634	36,901	573	46,871	446		321,592
Percent	0.02	0.10	7.80	28.74	5.71	0.09	7.26	0.07		49.78
Sample Size	1	5	236	919	169	2	227	2		1,561
Mean Length	321	574	473	583	476	634	571	552		552
Std. Error		7	2	1	3		3			1
Sample Size	1	5	236	919	169	2	227	2		1,561
Females		2,034	34,714	210,637	29,678	632	45,901	632	147	324,375
Percent		0.31	5.37	32.61	4.59	0.10	7.11	0.10	0.02	50.22
Sample Size		11	171	1,021	142	2	228	4	1	1,580
Mean Length		551	477	559	482	553	547	541	655	542
Std. Error		4	3	1	3	25	3	11		1
Sample Size		11	171	1,021	142	2	228	4	1	1,580
Both Sexes	115	2,686	85,114	396,271	66,579	1,205	92,772	1,078	147	645,967
Percent	0.02	0.42	13.18	61.35	10.31	0.19	14.36	0.17	0.02	100.00
Sample Size	1	16	407	1,940	311	4	455	6	1	3,141
Mean Length	321	557	475	570	479	592	559	545	655	547
Std. Error		4	2	1	2	25	2	11		1
Sample Size	1	16	407	1,940	311	4	455	6	1	3,141

[a] Mean length in mm.

Table 6. Age, sex and length composition of sockeye salmon in the Kalifonsky Beach commercial set gillnet harvest, Upper Cook Inlet, Alaska, in 1997.

	Age Group								
	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 1: 27 June - 11 July									
Males	257	7,703		32,868	3,338		12,582		56,748
Percent	0.24	7.11		30.33	3.08		11.61		52.37
Sample Size	1	30		128	13		49		221
Mean Length[a]	589	467		567	478		562		547
Std. Error		5		4	10		6		3
Sample Size	1	30		128	13		49		221
Females	257	5,906		33,638	2,054		9,758		51,613
Percent	0.24	5.45		31.04	1.90		9.01		47.63
Sample Size	1	23		131	8		38		201
Mean Length	547	484		556	480		554		544
Std. Error		5		3	8		5		2
Sample Size	1	23		131	8		38		201
Both Sexes	514	13,609		66,506	5,392		22,340		108,361
Percent	0.47	12.56		61.37	4.98		20.62		100.00
Sample Size	2	53		259	21		87		422
Mean Length	568	474		561	479		559		546
Std. Error		3		2	7		4		2
Sample Size	2	53		259	21		87		422

-Continued-

Table 6. (page 2 of 6)

	Age Group								
	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 2: 13 - 14 July									
Males		6,231		28,956	3,482	550	7,697		46,916
Percent		6.64		30.86	3.71	0.59	8.20		50.00
Sample Size		34		158	19	3	42		256
Mean Length		459		592	457	595	580		563
Std. Error		5		3	5	18	5		2
Sample Size		34		158	19	3	42		256
Females	550	5,864		31,889	2,749	183	5,681		46,916
Percent	0.59	6.25		33.99	2.93	0.20	6.05		50.00
Sample Size	3	32		174	15	1	31		256
Mean Length	552	467		572	476	614	558		551
Std. Error	6	6		2	10		7		2
Sample Size	3	32		174	15	1	31		256
Both Sexes	550	12,095		60,845	6,231	733	13,378		93,832
Percent	0.59	12.89		64.84	6.64	0.78	14.26		100.00
Sample Size	3	66		332	34	4	73		512
Mean Length	552	463		582	466	600	571		557
Std. Error	6	4		2	5	18	4		1
Sample Size	3	66		332	34	4	73		512

-Continued-

Table 6. (page 3 of 6)

	Age Group								
	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 3: 17 - 19 July									
Males	6,714		18,923	3,510		3,662			32,809
Percent	9.84		27.74	5.15		5.37			48.10
Sample Size	44		124	23		24			215
Mean Length	464		604	470		599			560
Std. Error	4		3	7		8			2
Sample Size	44		124	23		24			215
Females	6,562		20,907	2,747		5,188			35,404
Percent	9.62		30.65	4.03		7.61			51.90
Sample Size	43		137	18		34			232
Mean Length	463		572	469		559			542
Std. Error	3		3	7		6			2
Sample Size	43		137	18		34			232
Both Sexes	13,276		39,830	6,257		8,850			68,213
Percent	19.46		58.39	9.17		12.97			100.00
Sample Size	87		261	41		58			447
Mean Length	463		587	469		576			551
Std. Error	3		2	5		5			2
Sample Size	87		261	41		58			447

-Continued-

Table 6. (page 4 of 6)

	Age Group							
	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 4: 20 - 25 July									
Males	6,900			32,643	4,246	1,592	6,369		51,750
Percent	5.70			26.97	3.51	1.32	5.26		42.76
Sample Size	26			123	16	6	24		195
Mean Length	462			598	475	641	577		569
Std. Error	6			3	7	4	9		2
Sample Size	26			123	16	6	24		195
Females	6,900			49,097	2,388		10,881		69,266
Percent	5.70			40.57	1.97		8.99		57.24
Sample Size	26			185	9		41		261
Mean Length	473			573	477		560		558
Std. Error	5			2	12		5		2
Sample Size	26			185	9		41		261
Both Sexes	13,800			81,740	6,634	1,592	17,250		121,016
Percent	11.40			67.54	5.48	1.32	14.25		100.00
Sample Size	52			308	25	6	65		456
Mean Length	468			583	476	641	566		562
Std. Error	4			2	6	4	5		1
Sample Size	52			308	25	6	65		456

-Continued-

Table 6. (page 5 of 6)

	Age Group								
	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 5: 26 July - 4 August									
Males		3,823		33,773	5,523	212	7,434		50,765
Percent		3.77		33.33	5.45	0.21	7.34		50.11
Sample Size		18		159	26	1	35		239
Mean Length		459		583	471	612	591		563
Std. Error		8		3	7		6		2
Sample Size		18		159	26	1	35		239
Females		3,611	212	31,436	4,036	212	10,833	212	50,552
Percent		3.56	0.21	31.03	3.98	0.21	10.69	0.21	49.89
Sample Size		17	1	148	19	1	51	1	238
Mean Length		451	393	552	465	587	554	511	538
Std. Error		7		3	5		5		2
Sample Size		17	1	148	19	1	51	1	238
Both Sexes		7,434	212	65,209	9,559	424	18,267	212	101,317
Percent		7.34	0.21	64.36	9.43	0.42	18.03	0.21	100.00
Sample Size		35	1	307	45	2	86	1	477
Mean Length		455	393	568	468	600	569	511	550
Std. Error		5		2	5		4		2
Sample Size		35	1	307	45	2	86	1	477

-Continued-

Table 6. (page 6 of 6)

	Age Group								
	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	Total
All Periods Combined:									
Males	257	31,371		147,163	20,099	2,354	37,744		238,988
Percent	0.05	6.37		29.87	4.08	0.48	7.66		48.50
Sample Size	1	152		692	97	10	174		1,126
Mean Length	589	463		587	470	628	577		560
Std. Error		2		1	3	6	3		1
Sample Size	1	152		692	97	10	174		1,126
Females	807	28,843	212	166,967	13,974	395	42,341	212	253,751
Percent	0.16	5.85	0.04	33.89	2.84	0.08	8.59	0.04	51.50
Sample Size	4	141	1	775	69	2	195	1	1,188
Mean Length	550	469	393	565	472	600	557	511	548
Std. Error	6	2		1	4		3		1
Sample Size	4	141	1	775	69	2	195	1	1,188
Both Sexes	1,064	60,214	212	314,130	34,073	2,749	80,085	212	492,739
Percent	0.22	12.22	0.04	63.75	6.92	0.56	16.25	0.04	100.00
Sample Size	5	293	1	1,467	166	12	369	1	2,314
Mean Length	560	466	393	576	471	624	566	511	554
Std. Error	6	2		1	2	6	2		1
Sample Size	5	293	1	1,467	166	12	369	1	2,314

[a] Mean length in mm.

Table 7. Age, sex and length composition of sockeye salmon in the Salamatof Beach commercial set gillnet harvest, Upper Cook Inlet, Alaska, in 1997.

	Age Group							
	0.3	1.2	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 1: 11 - 14 July								
Males	314	1,886	41,176	943	314	7,229		51,862
Percent	0.23	1.35	29.57	0.68	0.23	5.19		37.25
Sample Size	1	6	131	3	1	23		165
Mean Length*	563	536	601	513	657	599		597
Std. Error		20	3	40		8		2
Sample Size	1	6	131	3	1	23		165
Females		629	76,692			10,058		87,379
Percent		0.45	55.08			7.22		62.75
Sample Size		2	244			32		278
Mean Length		519	578			576		577
Std. Error		22	2			5		2
Sample Size		2	244			32		278
Both Sexes	314	2,515	117,868	943	314	17,287		139,241
Percent	0.23	1.81	84.65	0.68	0.23	12.42		100.00
Sample Size	1	8	375	3	1	55		443
Mean Length	563	532	586	513	657	586		585
Std. Error		16	1	40		4		1
Sample Size	1	8	375	3	1	55		443

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Table 7. (page 2 of 4)

	Age Group							
	0.3	1.2	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 2: 17 - 21 July								
Males	1,141	9,128	98,700	7,417	571	17,116		134,073
Percent	0.42	3.35	36.27	2.73	0.21	6.29		49.27
Sample Size	2	16	173	13	1	30		235
Mean Length	587	486	585	473	634	562		569
Std. Error	15	11	3	12		9		2
Sample Size	2	16	173	13	1	30		235
Females		9,699	96,988	7,417		23,962		138,066
Percent		3.56	35.64	2.73		8.81		50.73
Sample Size		17	170	13		42		242
Mean Length		470	566	476		560		554
Std. Error		8	2	11		5		2
Sample Size		17	170	13		42		242
Both Sexes	1,141	18,827	195,688	14,834	571	41,078		272,139
Percent	0.42	6.92	71.91	5.45	0.21	15.09		100.00
Sample Size	2	33	343	26	1	72		477
Mean Length	587	478	576	474	634	561		561
Std. Error	15	7	2	8		5		2
Sample Size	2	33	343	26	1	72		477

-Continued-

Table 7. (page 3 of 4)

	Age Group							
	0.3	1.2	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 3: 23 July - 4 August								
Males	620	3,100	108,504	1,860		18,601	620	133,305
Percent	0.22	1.10	38.38	0.66		6.58	0.22	47.15
Sample Size	1	5	175	3		30	1	215
Mean Length	554	486	598	513		603	628	595
Std. Error		23	2	4		4		2
Sample Size	1	5	175	3		30	1	215
Females		3,100	122,764	5,580		17,981		149,425
Percent		1.10	43.42	1.97		6.36		52.85
Sample Size		5	198	9		29		241
Mean Length		497	570	511		569		566
Std. Error		15	2	11		5		2
Sample Size		5	198	9		29		241
Both Sexes	620	6,200	231,268	7,440		36,582	620	282,730
Percent	0.22	2.19	81.80	2.63		12.94	0.22	100.00
Sample Size	1	10	373	12		59	1	456
Mean Length	554	492	583	512		586	628	580
Std. Error		14	1	9		3		1
Sample Size	1	10	373	12		59	1	456

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Table 7. (page 4 of 4)

	Age Group							
	0.3	1.2	1.3	2.2	1.4	2.3	2.4	Total
All Periods Combined:								
Males	2,075	14,114	248,380	10,220	885	42,946	620	319,240
Percent	0.30	2.03	35.78	1.47	0.13	6.19	0.09	45.99
Sample Size	4	27	479	19	2	83	1	615
Mean Length	573	493	593	484	642	586	628	585
Std. Error	15	9	1	10		4		1
Sample Size	4	27	479	19	2	83	1	615
Females		13,428	296,444	12,997		52,001		374,870
Percent		1.93	42.71	1.87		7.49		54.01
Sample Size		24	612	22		103		761
Mean Length		479	571	491		566		564
Std. Error		7	1	8		3		1
Sample Size		24	612	22		103		761
Both Sexes	2,075	27,542	544,824	23,217	885	94,947	620	694,110
Percent	0.30	3.97	78.49	3.34	0.13	13.68	0.09	100.00
Sample Size	4	51	1,091	41	2	186	1	1,376
Mean Length	573	486	581	488	642	575	628	573
Std. Error	15	6	1	6		2		1
Sample Size	4	51	1,091	41	2	186	1	1,376

[a] Mean length in mm.

Table 8. Age, sex and length composition of sockeye salmon in the Eastern Subdistrict commercial set gillnet harvest, Upper Cook Inlet, Alaska, in 1997.

	Age Group								
	0.3	1.2	2.1	1.3	2.2	2.3	3.2	3.3	Total
Sample period:	2 June - 4 August								
Males	116	1,272	23	2,383	625	1,018	23	23	5,483
Percent	1.12	12.27	0.22	22.99	6.03	9.82	0.22	0.22	52.90
Sample Size	5	55	1	103	27	44	1	1	237
Mean Length[a]	562	478	393	572	480	572	476	537	538
Std. Error	16	5		4	7	5			2
Sample Size	5	55	1	103	27	44	1	1	237
Females	46	1,319	23	1,943	671	856	23		4,881
Percent	0.44	12.73	0.22	18.75	6.47	8.26	0.22		47.10
Sample Size	2	57	1	84	29	37	1		211
Mean Length	518	472	397	551	488	549	510		519
Std. Error	14	3		3	5	5			2
Sample Size	2	57	1	84	29	37	1		211
Both Sexes	162	2,591	46	4,326	1,296	1,874	46	23	10,364
Percent	1.56	25.00	0.44	41.74	12.50	18.08	0.44	0.22	100.00
Sample Size	7	112	2	187	56	81	2	1	448
Mean Length	550	475	395	563	484	561	493	537	529
Std. Error	12	3		3	4	4			2
Sample Size	7	112	2	187	56	81	2	1	448

[a] Mean length in mm.

Table 9. Age, sex and length composition of sockeye salmon in the General Subdistrict commercial set gillnet harvest, Upper Cook Inlet, Alaska, in 1997.

	Age Group						
	0.2	0.3	1.2	1.3	2.2	2.3	Total
Sample Period 1: 2 June - 15 July							
Males	120	2,158	6,235	15,589	1,319	1,439	26,860
Percent	0.22	4.04	11.66	29.15	2.47	2.69	50.22
Sample Size	1	18	52	130	11	12	224
Mean Length[a]	437	580	508	585	508	584	562
Std. Error		7	6	3	10	9	2
Sample Size	1	18	52	130	11	12	224
Females	120	2,518	4,916	16,189	839	2,039	26,621
Percent	0.22	4.71	9.19	30.27	1.57	3.81	49.78
Sample Size	1	21	41	135	7	17	222
Mean Length	429	569	513	565	487	570	553
Std. Error		5	5	2	8	6	2
Sample Size	1	21	41	135	7	17	222
Both Sexes	240	4,676	11,151	31,778	2,158	3,478	53,481
Percent	0.45	8.74	20.85	59.42	4.04	6.50	100.00
Sample Size	2	39	93	265	18	29	446
Mean Length	433	574	510	574	500	575	557
Std. Error		4	4	2	7	5	1
Sample Size	2	39	93	265	18	29	446

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Table 9. (page 2 of 3)

	Age Group						
	0.2	0.3	1.2	1.3	2.2	2.3	Total
Sample Period 2: 20 July - 4 August							
Males	93	1,300	3,435	9,655	1,021	1,485	16,989
Percent	0.28	3.87	10.22	28.73	3.04	4.42	50.55
Sample Size	1	14	37	104	11	16	183
Mean Length	544	575	497	580	501	576	558
Std. Error		10	6	3	12	8	2
Sample Size	1	14	37	104	11	16	183
Females	93	1,764	3,992	8,076	1,207	1,485	16,617
Percent	0.28	5.25	11.88	24.03	3.59	4.42	49.45
Sample Size	1	19	43	87	13	16	179
Mean Length	433	550	491	552	502	532	531
Std. Error		4	4	2	5	10	2
Sample Size	1	19	43	87	13	16	179
Both Sexes	186	3,064	7,427	17,731	2,228	2,970	33,606
Percent	0.55	9.12	22.10	52.76	6.63	8.84	100.00
Sample Size	2	33	80	191	24	32	362
Mean Length	489	561	494	567	502	554	544
Std. Error		5	4	2	6	6	1
Sample Size	2	33	80	191	24	32	362

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Table 9. (page 3 of 3)

	Age Group						
	0.2	0.3	1.2	1.3	2.2	2.3	Total
All Periods Combined:							
Males	213	3,458	9,670	25,244	2,340	2,924	43,849
Percent	0.24	3.97	11.10	28.99	2.69	3.36	50.35
Sample Size	2	32	89	234	22	28	407
Mean Length	484	578	504	583	505	580	560
Std. Error		6	4	2	8	6	2
Sample Size	2	32	89	234	22	28	407
Females	213	4,282	8,908	24,265	2,046	3,524	43,238
Percent	0.24	4.92	10.23	27.86	2.35	4.05	49.65
Sample Size	2	40	84	222	20	33	401
Mean Length	431	561	503	560	496	554	544
Std. Error		3	3	2	4	5	1
Sample Size	2	40	84	222	20	33	401
Both Sexes	426	7,740	18,578	49,509	4,386	6,448	87,087
Percent	0.49	8.89	21.33	56.85	5.04	7.40	100.00
Sample Size	4	72	173	456	42	61	808
Mean Length	457	569	504	572	501	565	552
Std. Error		3	3	1	5	4	1
Sample Size	4	72	173	456	42	61	808

[a] Mean length in mm.

Table 10. Age, sex and length composition of sockeye salmon escapement in Kenai River, Upper Cook Inlet, Alaska, in 1997.

	Age Group										
	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	Total
Sample period:	1 July - 25 August										
Males	1,106		37,595	2,211	411,331	13,269	3,317	57,498			526,327
Percent	0.10		3.53	0.21	38.63	1.25	0.31	5.40			49.43
Sample Size	1		34	2	372	12	3	52			476
Mean Length[a]	357		480	380	593	489	620	600			582
Std. Error			8	15	2	8	5	4			2
Sample Size	1		34	2	372	12	3	52			476
Females		3,317	43,123	2,211	389,218	16,586	1,106	80,718	1,106	1,106	538,491
Percent		0.31	4.05	0.21	36.55	1.56	0.10	7.58	0.10	0.10	50.57
Sample Size		3	39	2	352	15	1	73	1	1	487
Mean Length		566	489	393	571	504	570	567	541	550	561
Std. Error		12	6	7	1	9		4			1
Sample Size		3	39	2	352	15	1	73	1	1	487
Both Sexes	1,106	3,317	80,718	4,422	800,549	29,855	4,423	138,216	1,106	1,106	1,064,818
Percent	0.10	0.31	7.58	0.42	75.18	2.80	0.42	12.98	0.10	0.10	100.00
Sample Size	1	3	73	4	724	27	4	125	1	1	963
Mean Length	357	566	485	387	582	498	607	581	541	550	571
Std. Error		12	5	8	1	6	5	3			1
Sample Size	1	3	73	4	724	27	4	125	1	1	963

[a] Mean length in mm.

Table 11. Age, sex and length composition of sockeye salmon escapement in Hidden Creek, Kenai River drainage, Upper Cook Inlet, Alaska, in 1997.

	Age Group				
	1.2	1.3	2.2	2.3	Total
Sample period:	17 July - 13 September				
Males	16,911	7,066	397	715	25,089
Percent	30.17	12.61	0.71	1.28	44.76
Sample Size	213	89	5	9	316
Mean Length[a]	522	571	537	590	538
Std. Error	1	3	8	5	1
Sample Size	213	89	5	9	316
Females	26,517	2,779	1,350	318	30,964
Percent	47.31	4.96	2.41	0.57	55.24
Sample Size	334	35	17	4	390
Mean Length	509	553	536	575	515
Std. Error	1	4	4	10	1
Sample Size	334	35	17	4	390
Both Sexes	43,428	9,845	1,747	1,033	56,053[b]
Percent	77.48	17.56	3.12	1.84	100.00
Sample Size	547	124	22	13	706
Mean Length	514	566	536	585	525
Std. Error	1	2	4	4	1
Sample Size	547	124	22	13	706

[a] Mean length in mm.
[b] Total escapement into Hidden Creek was 56,053 with an egg take of 1,872 fish and 11 mortalities, resulting in 54,170 spawners.

Table 12. Age, sex and length composition of sockeye salmon escapement in Kasilof River, Upper Cook Inlet, Alaska, in 1997.

	Age Group				
	1.2	1.3	2.2	2.3	Total
Sample period:	14 June - 12 August				
Males	28,077	78,263	16,495	13,687	136,522
Percent	10.55	29.42	6.20	5.15	51.32
Sample Size	80	223	47	39	389
Mean Length[a]	456	555	459	546	522
Std. Error	4	2	4	6	2
Sample Size	80	223	47	39	389
Females	28,077	67,383	19,303	14,740	129,503
Percent	10.55	25.33	7.26	5.54	48.68
Sample Size	80	192	55	42	369
Mean Length	452	541	450	526	506
Std. Error	3	2	3	5	1
Sample Size	80	192	55	42	369
Both Sexes	56,154	145,646	35,798	28,427	266,025
Percent	21.11	54.75	13.46	10.69	100.00
Sample Size	160	415	102	81	758
Mean Length	454	548	454	536	514
Std. Error	2	1	2	4	1
Sample Size	160	415	102	81	758

[a] Mean length in mm.

Table 13. Age, sex and length composition of sockeye salmon escapement in Crescent River, Upper Cook Inlet, Alaska, in 1997.

	Age Group						
	1.2	2.1	1.3	2.2	2.3	2.4	Total
Sample period:	24 June - 5 August						
Males	5,529	111	18,134	3,317	9,288	111	36,490
Percent	7.81	0.16	25.62	4.69	13.12	0.16	51.56
Sample Size	50	1	164	30	84	1	330
Mean Length[a]	463	308	593	473	590	673	561
Std. Error	5		2	8	3		2
Sample Size	50	1	164	30	84	1	330
Females	1,990		21,452	1,327	9,509		34,278
Percent	2.81		30.31	1.88	13.44		48.44
Sample Size	18		194	12	86		310
Mean Length	490		565	519	569		560
Std. Error	5		2	11	2		1
Sample Size	18		194	12	86		310
Both Sexes	7,519	111	39,586	4,644	18,797	111	70,768
Percent	10.62	0.16	55.94	6.56	26.56	0.16	100.00
Sample Size	68	1	358	42	170	1	640
Mean Length	470	308	578	486	579	673	561
Std. Error	4		1	6	2		1
Sample Size	68	1	358	42	170	1	640

[a] Mean length in mm.

Table 14. Age, sex and length composition of sockeye salmon escapement in Packers Creek, Kalgin Island, Upper Cook Inlet, Alaska, in 1997.

	Age Group							
	1.2	1.3	2.2	2.3	3.2	2.4	3.3	Total
Sample period:	1 June - 20 September							
Males	1,168	83	3,670	5,589	417			10,927
Percent	2.75	0.20	8.64	13.16	0.98			25.74
Sample Size	14	1	44	67	5			131
Mean Length[a]	431	540	448	544	459			496
Std. Error	8		5	3	11			3
Sample Size	14	1	44	67	5			131
Females	1,418	167	4,504	24,523	667	167	83	31,529
Percent	3.34	0.39	10.61	57.76	1.57	0.39	0.20	74.26
Sample Size	17	2	54	294	8	2	1	378
Mean Length	456	528	455	529	469	548	500	514
Std. Error	5	8	4	1	13	13		1
Sample Size	17	2	54	294	8	2	1	378
Both Sexes	2,586	250	8,174	30,112	1,084	167	83	42,456[b]
Percent	6.09	0.59	19.25	70.93	2.55	0.39	0.20	100.00
Sample Size	31	3	98	361	13	2	1	509
Mean Length	445	532	452	532	465	548	500	510
Std. Error	5	8	3	1	9	13		1
Sample Size	31	3	98	361	13	2	1	509

[a] Mean lenth in mm.
[b] Total represents an escapement through the weir of 33,846, a cost recovery harvest below the weir of 8,575 fish, and mortalities of 35 fish. Number of fish used for egg take was 1,800 with 24 mortalities, leaving a spawning stock of 32,022.

Table 15. Age, sex and length composition of sockeye salmon escapement in Yentna River, (RM 4.0), Susitna River drainage, Upper Cook Inlet, Alaska, in 1997.

	Age Group										
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.3	Total
Sample period:	7 July - 12 August										
Males	1,681		8,616	23,116	210	32,574	3,152		7,145		76,494
Percent	1.07		5.46	14.65	0.13	20.64	2.00		4.53		48.47
Sample Size	8		41	110	1	155	15		34		364
Mean Length[a]	425		598	479	330	585	497		575		546
Std. Error	6		5	4		2	12		4		2
Sample Size	8		41	110	1	155	15		34		364
Females		210	7,986	27,950		36,356	4,203	210	4,203	210	81,328
Percent		0.13	5.06	17.71		23.04	2.66	0.13	2.66	0.13	51.53
Sample Size		1	38	133		173	20	1	20	1	387
Mean Length		340	559	479		555	460	549	548	519	523
Std. Error			4	3		2	17		9		2
Sample Size		1	38	133		173	20	1	20	1	387
Both Sexes	1,681	210	16,602	51,066	210	68,930	7,355	210	11,348	210	157,822
Percent	1.07	0.13	10.52	32.36	0.13	43.68	4.66	0.13	7.19	0.13	100.00
Sample Size	8	1	79	243	1	328	35	1	54	1	751
Mean Length	425	340	580	479	330	569	475	549	565	519	534
Std. Error	6		3	2		2	11		4		1
Sample Size	8	1	79	243	1	328	35	1	54	1	751

[a] Mean length in mm.

Table 16. Age, sex and length composition of sockeye salmon escapement in Chelatna Lake (Lake Creek), Yentna River drainage, Upper Cook Inlet, Alaska, in 1997.

	Age Group					
	0.3	1.2	1.3	2.2	2.3	Total
Sample period:	11 July - 11 August					
Males	8,407	13,353	23,409	165	330	45,664
Percent	9.90	15.73	27.57	0.19	0.39	53.79
Sample Size	51	81	142	1	2	277
Mean Length[a]	569	511	574	525	555	555
Std. Error	4	3	2		25	2
Sample Size	51	81	142	1	2	277
Females	5,110	13,518	19,618	165	824	39,235
Percent	6.02	15.92	23.11	0.19	0.97	46.21
Sample Size	31	82	119	1	5	238
Mean Length	544	495	547	490	556	529
Std. Error	5	3	2		8	2
Sample Size	31	82	119	1	5	238
Both Sexes	13,517	26,871	43,027	330	1,154	84,899
Percent	15.92	31.65	50.68	0.39	1.36	100.00
Sample Size	82	163	261	2	7	515
Mean Length	560	503	562	508	556	543
Std. Error	3	2	2		9	1
Sample Size	82	163	261	2	7	515

[a] Mean length in mm.

Table 17. Age, sex and length composition of sockeye salmon escapement in Fish Creek, Upper Cook Inlet, Alaska, in 1997.

	Age Group						
	1.1	1.2	1.3	2.2	1.4	2.3	Total
Sample period:	7 July - 1 September						
Males	101	13,437	6,062	1,717		707	22,024
Percent	0.18	24.58	11.09	3.14		1.29	40.30
Sample Size	1	133	60	17		7	218
Mean Length[a]	395	468	554	482		557	495
Std. Error		3	4	8		9	2
Sample Size	1	133	60	17		7	218
Females		18,690	9,092	2,627	101	2,122	32,632
Percent		34.20	16.63	4.81	0.18	3.88	59.70
Sample Size		185	90	26	1	21	323
Mean Length		473	529	477	545	537	493
Std. Error		2	2	5		8	1
Sample Size		185	90	26	1	21	323
Both Sexes	101	32,127	15,154	4,344	101	2,829	54,656
Percent	0.18	58.78	27.73	7.95	0.18	5.18	100.00
Sample Size	1	318	150	43	1	28	541
Mean Length	395	471	539	479	545	542	494
Std. Error		2	2	4		7	1
Sample Size	1	318	150	43	1	28	541

[a] Mean length in mm.

Table 18. Age, sex and length composition of chinook salmon in the Upper Subdistrict commercial set gillnet harvest, Upper Cook Inlet, Alaska, in 1997.

	Age Group									
	1.1	1.2	2.1	1.3	2.2	1.4	2.3	1.5	2.4	Total
Sample Period 1: 27 June - 14 July										
Males	606	548	30	568	15	606	10	5	5	2,393
Percent	16.29	14.73	0.81	15.26	0.40	16.29	0.27	0.13	0.13	64.31
Sample Size	123	111	6	115	3	123	2	1	1	485
Mean Length	415	624	412	832	587	1,022	878	1,055	935	721
Std. Error	4	6	10	9	40	7	103			3
Sample Size	123	111	6	115	3	123	2	1	1	485
Females	25	153		365		765	15	5		1,328
Percent	0.67	4.11		9.81		20.56	0.40	0.13		35.69
Sample Size	5	31		74		155	3	1		269
Mean Length	444	616		864		981	845	935		895
Std. Error	12	14		9		4	48			4
Sample Size	5	31		74		155	3	1		269
Both Sexes	631	701	30	933	15	1,371	25	10	5	3,721
Percent	16.96	18.84	0.81	25.07	0.40	36.84	0.67	0.27	0.13	100.00
Sample Size	128	142	6	189	3	278	5	2	1	754
Mean Length	416	622	412	844	587	999	858	995	935	783
Std. Error	4	6	10	6	40	4	50			3
Sample Size	128	142	6	189	3	278	5	2	1	754

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Table 18. (page 2 of 3)

	Age Group									
	1.1	1.2	2.1	1.3	2.2	1.4	2.3	1.5	2.4	Total
Sample Period 2: 17 July - 4 August										
Males	89	783		1,589	16	1,630	32	32	97	4,268
Percent	1.18	10.36		21.02	0.21	21.56	0.42	0.42	1.28	56.46
Sample Size	11	97		197	2	202	4	4	12	529
Mean Length	492	642		842	628	1,021	866	1,089	1,011	871
Std. Error	66	7		5	53	7	38	45	24	4
Sample Size	11	97		197	2	202	4	4	12	529
Females		40		984		2,148	24	40	56	3,292
Percent		0.53		13.02		28.41	0.32	0.53	0.74	43.54
Sample Size		5		122		266	3	5	7	408
Mean Length		611		897		992	882	1,042	974	958
Std. Error		41		4		3	33	16	17	2
Sample Size		5		122		266	3	5	7	408
Both Sexes	89	823		2,573	16	3,778	56	72	153	7,560
Percent	1.18	10.89		34.03	0.21	49.97	0.74	0.95	2.02	100.00
Sample Size	11	102		319	2	468	7	9	19	937
Mean Length	492	640		863	628	1,004	873	1,063	997	909
Std. Error	66	7		4	53	4	26	22	16	2
Sample Size	11	102		319	2	468	7	9	19	937

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Table 18. (page 3 of 3)

	Age Group									
	1.1	1.2	2.1	1.3	2.2	1.4	2.3	1.5	2.4	Total
All Periods Combined:										
Males	695	1,331	30	2,157	31	2,236	42	37	102	6,661
Percent	6.16	11.80	0.27	19.12	0.27	19.82	0.37	0.33	0.90	59.05
Sample Size	134	208	6	312	5	325	6	5	13	1,014
Mean Length	425	634	412	839	608	1,021	869	1,084	1,008	817
Std. Error	9	5	10	5	33	6	38	45	24	3
Sample Size	134	208	6	312	5	325	6	5	13	1,014
Females	25	193		1,349		2,913	39	45	56	4,620
Percent	0.22	1.71		11.96		25.82	0.35	0.40	0.50	40.95
Sample Size	5	36		196		421	6	6	7	677
Mean Length	444	615		888		989	868	1,030	974	940
Std. Error	12	14		4		3	28	16	17	2
Sample Size	5	36		196		421	6	6	7	677
Both Sexes	720	1,524	30	3,506	31	5,149	81	82	158	11,281
Percent	6.38	13.51	0.27	31.08	0.27	45.64	0.72	0.73	1.40	100.00
Sample Size	139	244	6	508	5	746	12	11	20	1,691
Mean Length	426	632	412	858	608	1,003	868	1,055	995	868
Std. Error	9	5	10	3	33	3	24	22	16	2
Sample Size	139	244	6	508	5	746	12	11	20	1,691

* Mean length in mm.

Table 19. Age, length and percent female composition of coho salmon in selected commercial gillnet harvests, Upper Cook Inlet, Alaska, in 1997.

Fishery	Age Group 1.1	2.1	3.1	Total
COMMERCIAL CATCH				
Central District				
Central Drift				
Number	13,548	61,070	4,044	78,662
Percent	17.22	77.64	5.14	100.00
Sample Size	67	302	20	389
Mean Length[a]	540	570	594	566
% Female	51	55	55	54
Upper Subdistrict				
Number	2,776	15,319	1,573	19,668
Percent	14.11	77.89	8.00	100.00
Sample Size	60	331	34	425
Mean Length	521	547	555	544
% Female	62	58	56	58
Northern District				
General Subdistrict				
Number	5,671	27,943	1,536	35,150
Percent	16.13	79.50	4.37	100.00
Sample Size	96	473	26	595
Mean Length	540	554	571	552
% Female	46	47	46	47
Commercial Catch Total				
Number	21,995	104,332	7,153	133,480
Percent	16.48	78.16	5.36	100.00
Sample Size	223	1,106	80	1,409
Mean Length	538	562	581	559
% Female	51	53	53	53

[a]Mean length in mm.

Table 20. Age, sex and length composition of coho salmon in the Central District commercial drift gillnet harvest, Upper Cook Inlet, Alaska, in 1997.

	Age Group			
	1.1	2.1	3.1	Total
Sample period:	27 June - 4 August			
Males	6,673	27,704	1,820	36,197
Percent	8.48	35.22	2.31	46.02
Sample Size	33	137	9	179
Mean Length[a]	537	572	602	567
Std. Error	7	3	15	3
Sample Size	33	137	9	179
Females	6,875	33,366	2,224	42,465
Percent	8.74	42.42	2.83	53.98
Sample Size	34	165	11	210
Mean Length	543	568	588	565
Std. Error	6	2	8	2
Sample Size	34	165	11	210
Both Sexes	13,548	61,070	4,044	78,662
Percent	17.22	77.64	5.14	100.00
Sample Size	67	302	20	389
Mean Length	540	570	594	566
Std. Error	5	2	8	2
Sample Size	67	302	20	389

[a]Mean length in mm.

Table 21. Age, sex and length composition of coho salmon in the Upper Subdistrict commercial set gillnet harvest, Upper Cook Inlet, Alaska, in 1997.

	Age Group			
	1.1	2.1	3.1	Total
Sample period:	30 June -	4 August		
Males	1,064	6,433	694	8,191
Percent	5.41	32.71	3.53	41.65
Sample Size	23	139	15	177
Mean Length[a]	527	547	563	545
Std. Error	10	4	14	4
Sample Size	23	139	15	177
Females	1,712	8,886	879	11,477
Percent	8.70	45.18	4.47	58.35
Sample Size	37	192	19	248
Mean Length	517	547	549	543
Std. Error	7	3	10	3
Sample Size	37	192	19	248
Both Sexes	2,776	15,319	1,573	19,668
Percent	14.11	77.89	8.00	100.00
Sample Size	60	331	34	425
Mean Length	521	547	555	544
Std. Error	6	2	8	2
Sample Size	60	331	34	425

[a]Mean length in mm.

Table 22. Age, sex and length composition of coho salmon in the General Subdistrict commercial set gillnet harvest, Upper Cook Inlet, Alaska, in 1997.

	Age Group			
	1.1	2.1	3.1	Total
Sample period:	30 June -	4 August		
Males	3,072	14,769	827	18,668
Percent	8.74	42.02	2.35	53.11
Sample Size	52	250	14	316
Mean Length[a]	535	555	578	552
Std. Error	5	2	9	2
Sample Size	52	250	14	316
Females	2,599	13,174	709	16,482
Percent	7.39	37.48	2.02	46.89
Sample Size	44	223	12	279
Mean Length	545	553	562	552
Std. Error	5	2	7	2
Sample Size	44	223	12	279
Both Sexes	5,671	27,943	1,536	35,150
Percent	16.13	79.50	4.37	100.00
Sample Size	96	473	26	595
Mean Length	540	554	571	552
Std. Error	3	2	6	1
Sample Size	96	473	26	595

[a]Mean length in mm.

Table 23. Age, sex and length composition of chum salmon in the Central District commercial drift gillnet harvest, Upper Cook Inlet, Alaska, in 1997.

	Age Group				
	0.2	0.3	0.4	0.5	Total
Sample period:	7 July - 4 August				
Males	877	32,807	7,639	501	41,824
Percent	0.95	35.60	8.29	0.54	45.38
Sample Size	7	262	61	4	334
Mean Length[a]	590	607	627	635	610
Std. Error	11	2	4	18	2
Sample Size	7	262	61	4	334
Females	501	37,316	9,642	2,880	50,339
Percent	0.54	40.49	10.46	3.12	54.62
Sample Size	4	298	77	23	402
Mean Length	546	604	618	642	608
Std. Error	10	2	4	7	1
Sample Size	4	298	77	23	402
Both Sexes	1,378	70,123	17,281	3,381	92,163
Percent	1.50	76.09	18.75	3.67	100.00
Sample Size	11	560	138	27	736
Mean Length	574	605	622	641	609
Std. Error	8	1	3	7	1
Sample Size	11	560	138	27	736

[a]Mean length in mm.

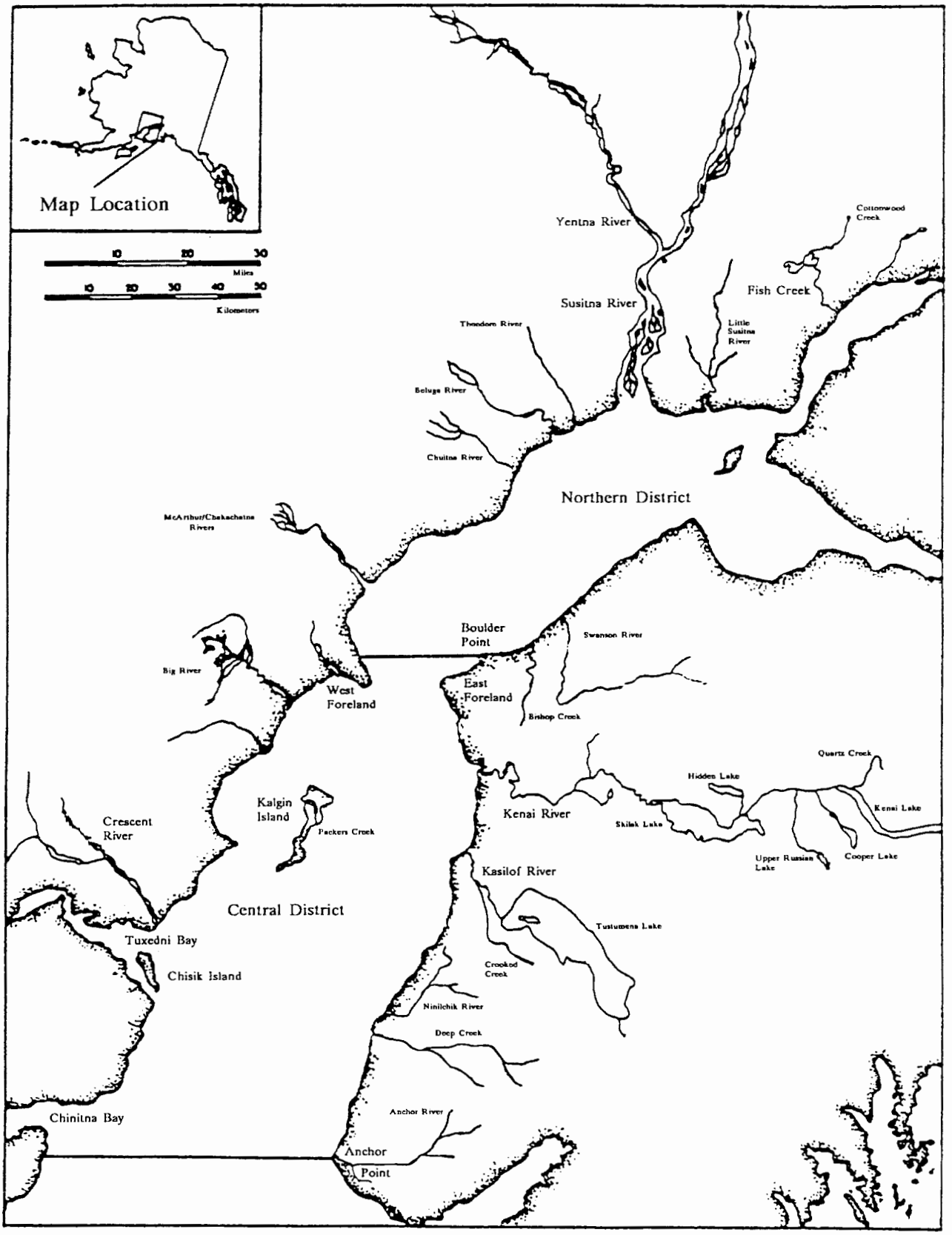

Figure 1. Map of Upper Cook Inlet showing locations of the Northern and Central Districts and the primary salmon spawning drainages.

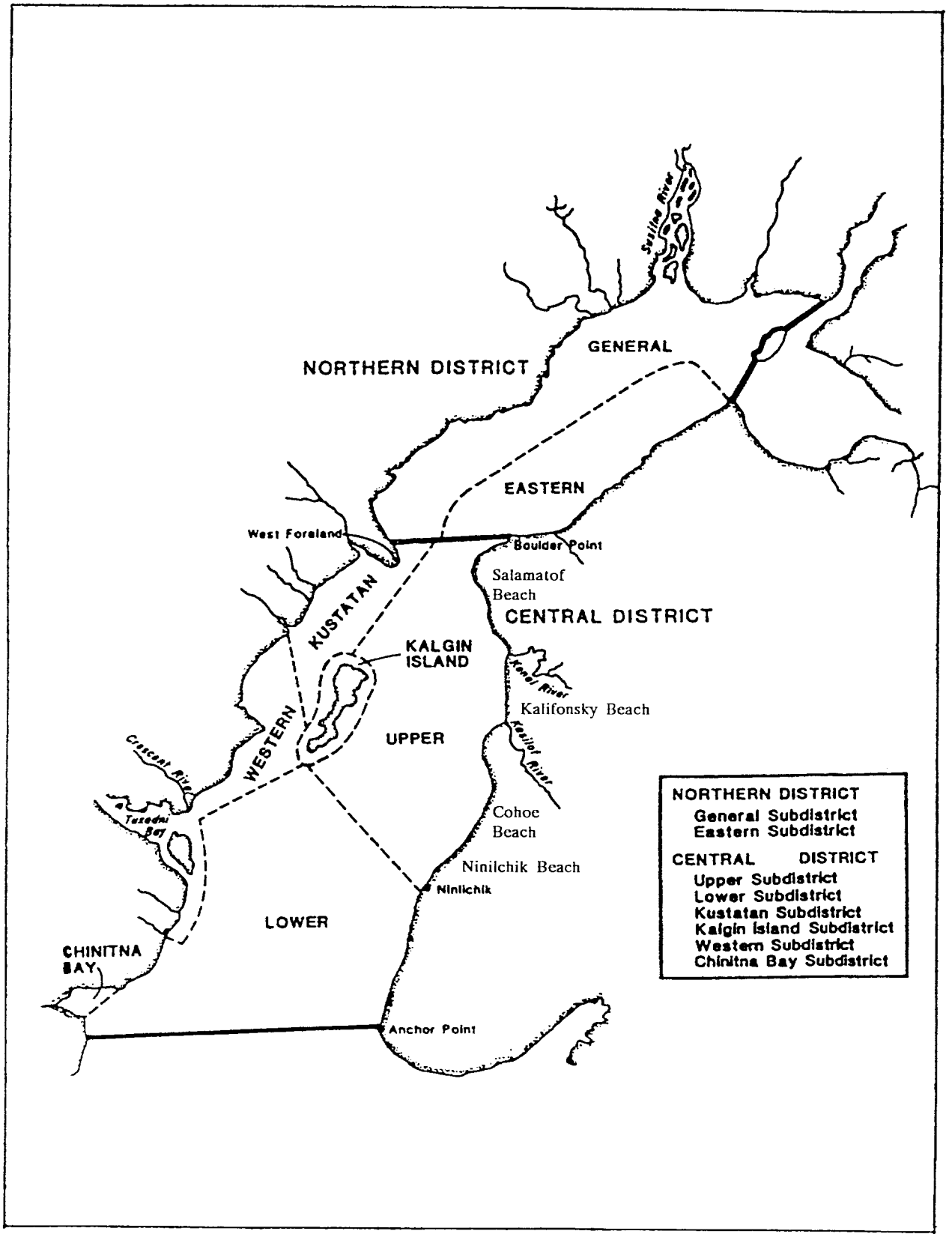

Figure 2. Map of Upper Cook Inlet showing the commercial fishing districts, subdistricts and Upper Subdistrict beach fisheries.

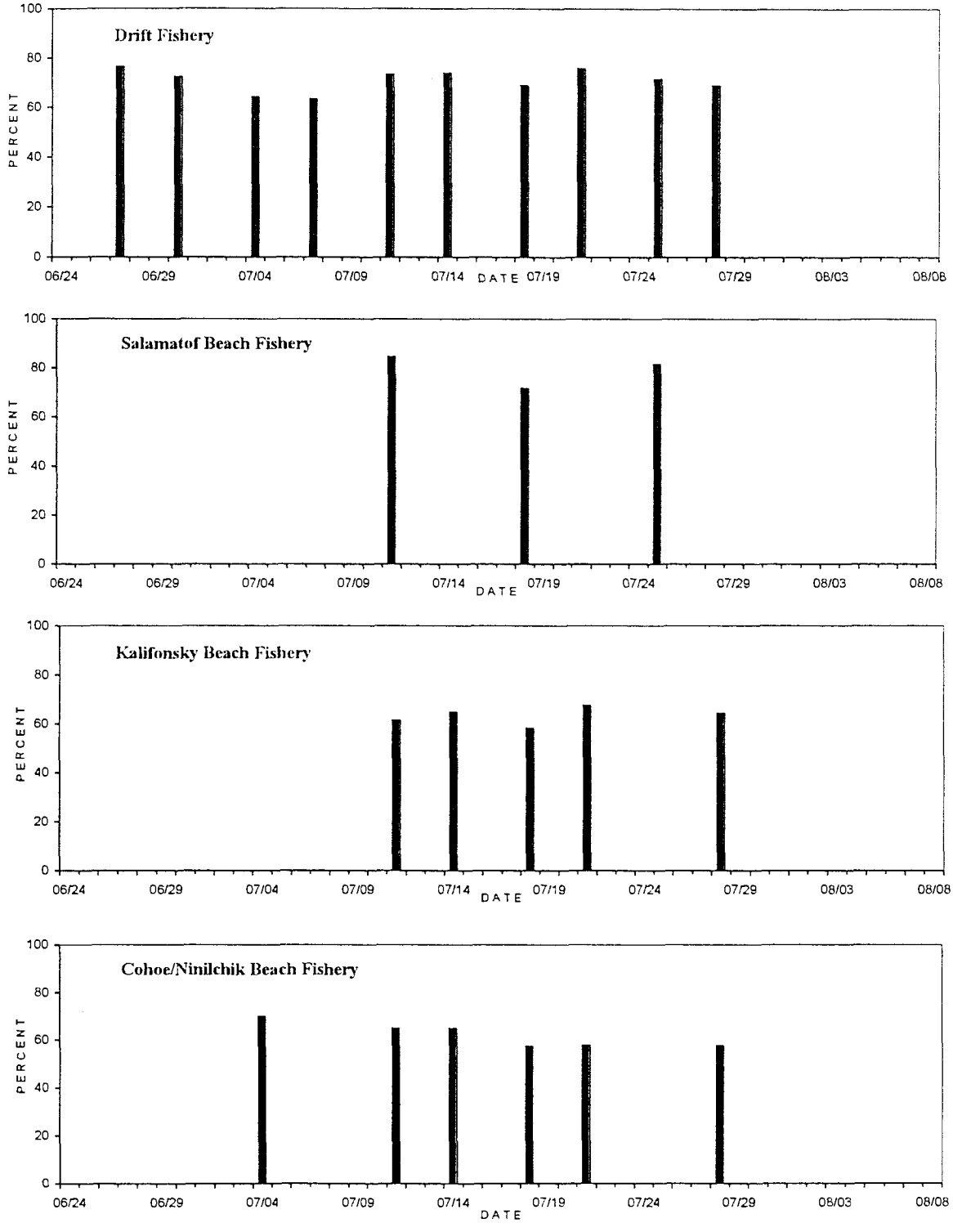

Figure 3. Trends in age-1.3 sockeye salmon composition in the Central District drift gillnet and Upper Subdistrict (Salamatof, Kalifonsky, and Cohoe/Ninilchik Beaches) set gillnet harvests, Upper Cook Inlet, Alaska, in 1997.

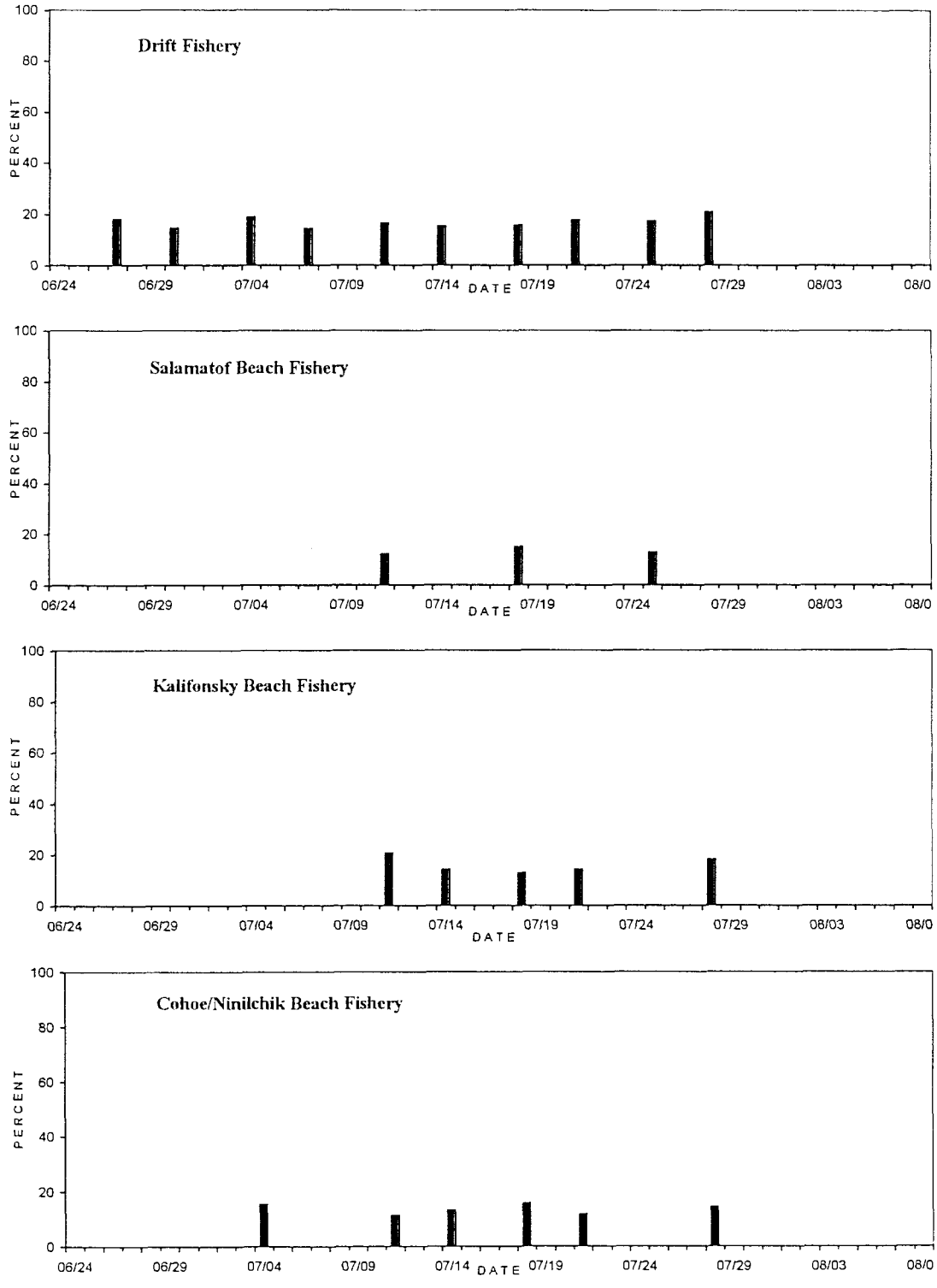

Figure 4. Trends in age-2.3 sockeye salmon composition in the Central District drift gillnet and Upper Subdistrict (Salamatof, Kalifonsky, and Cohoe/Ninilchik Beaches) set gillnet harvests, Upper Cook Inlet, Alaska, in 1997.

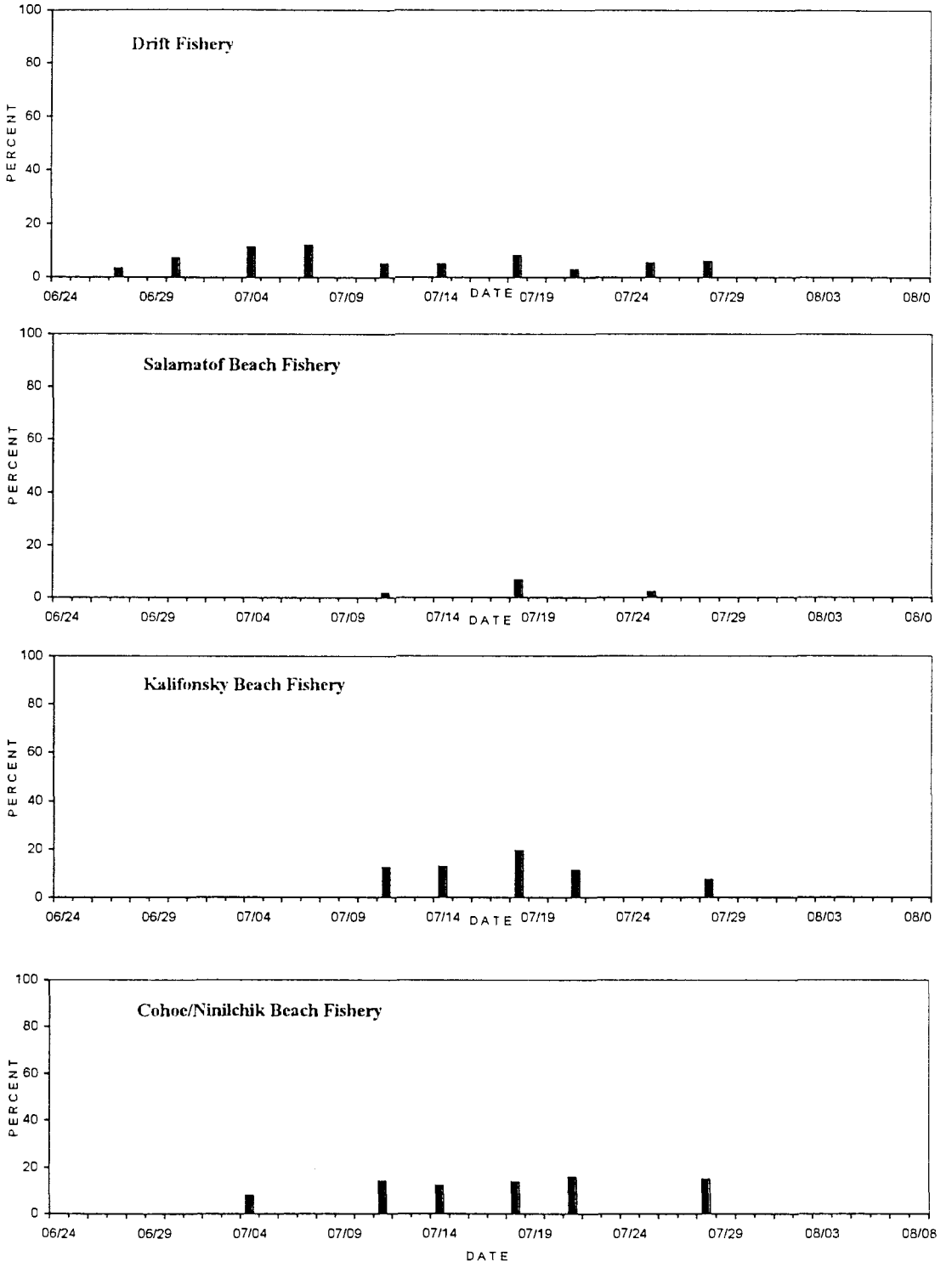

Figure 5. Trends in age-1.2 sockeye salmon composition in the Central District drift gillnet and Upper Subdistrict (Salamatof, Kalifonsky, and Cohoe/Ninilchik Beaches) set gillnet harvests, Upper Cook Inlet, Alaska, in 1997.

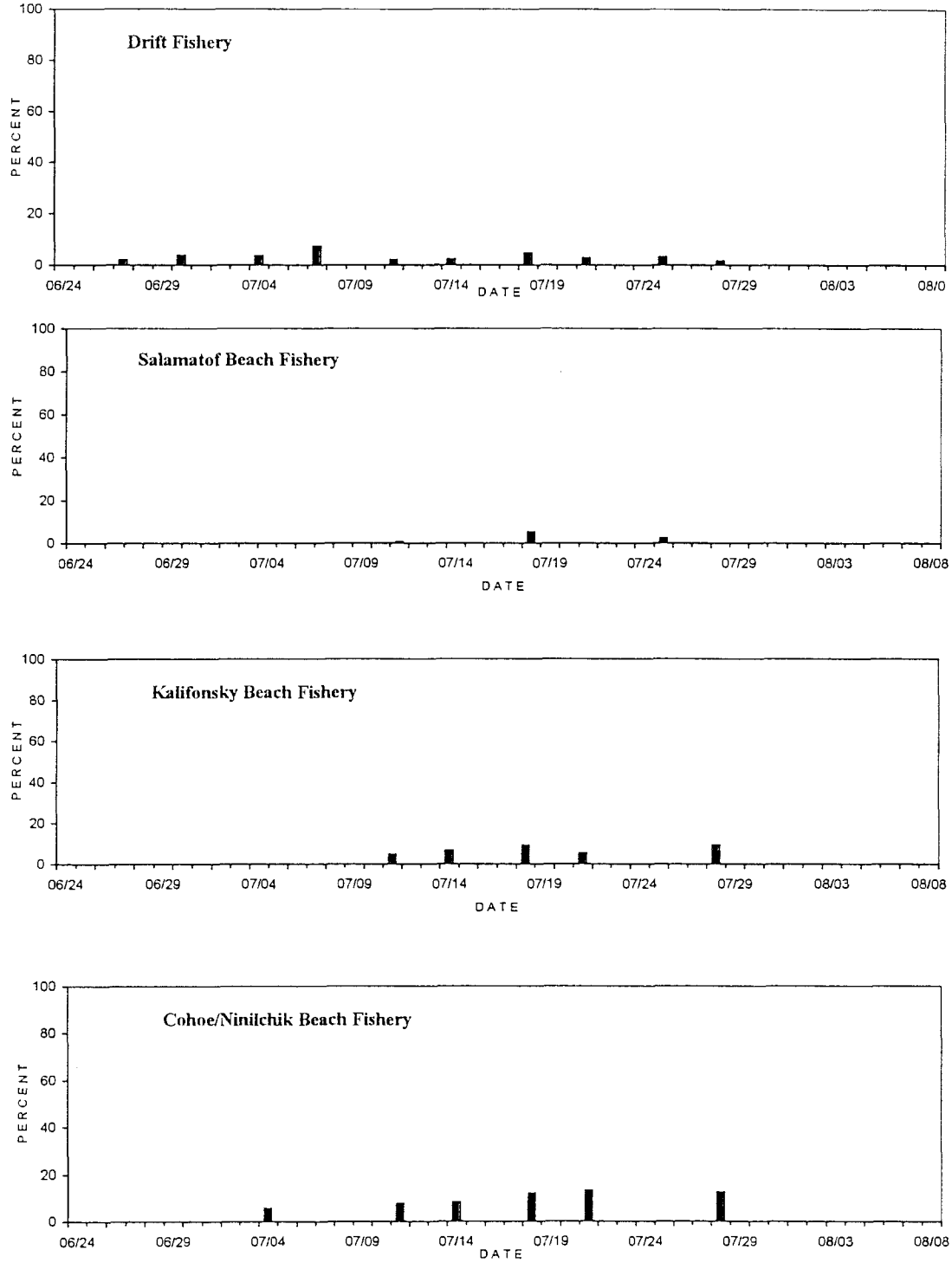

Figure 6. Trends in age-2.2 sockeye salmon composition in the Central District drift gillnet and Upper Subdistrict (Salamatof, Kalifonsky, and Cohoe/Ninilchik Beaches) set gillnet harvests, Upper Cook Inlet, Alaska, in 1997.